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THE UNIVERSITY OF ALBERTA

FACTORS CONSTRAINING WOMEN FARMERS' ACCESS TO AGRICULTURAL SERVICES IN SIERRA LEONE

by

MARIE ALIENA MANYEH

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF SCIENCE

©

IN

RURAL SOCIOLOGY

DEPARTMENT OF RURAL ECONOMY

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FALL, 1990

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Date July 20, 1990

Dedicated to Morie and the Boys

ABSTRACT

The main objective of this study was to determine factors constraining women farmers' access to extension advice/information, training and farm loans in Sierra Leone. The study assessed the availability of these agricultural services to the women, what the women perceive as major problems in obtaining them, and ways of facilitating their access to these services. Data was collected through a survey interview from 200 randomly selected women farmers from four chiefdoms in Moyamba District.

Data analysis revealed that women's access to these services was extremely low. Of the hypotheses postulated, household head type and village zone showed no significant differences in women's access to these services. The Chi-square results showed that women's education and income as well as their husbands' education have a significant relationship with women's access to both extension advice/information and training. When these variables were regressed, only women's income showed a significant and negative relationship with women's access to both services. None of the selected independent variables appeared to have significant relationships with women's access to farm loans.

The problems women faced in obtaining these agricultural services were found to be mainly socio-cultural, discriminatory and extension/government related. Socio-cultural factors emerged as the greatest barrier to women's access to extension advice/information, while discrimination and extension/government related factors accounted for major problems of obtaining extension training and farm loans respectively. The main suggestions made by the women to enhance their access to these services included a focus on themselves as a target group, the promotion of radio talks, monitoring extension activities, training more female extension workers, support and encouragement from husbands, and the promotion of group work among relatives, friends and neighbours. These suggestions generated the following recommendations a) policies to be made and translated into concrete measures to benefit women b) a redesign of the extension system to implement "improved" policies c) a change of unfavourable attitudes that continue to undermine women's true values as farmers d) assisting women farmers in getting farm loans and/or farm inputs and e) all programmes to be integrated within the total rural development plan.

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CHAPTER I

THE PROBLEM AND ITS SETTING

1.1 Background To The Study

The problems which African women encounter in farming have been the subject of analysis for the past three decades. Boserup's book entitled "Women's Role in Economic Development" (1970) is perhaps the most influential of the early analyses. In it she posited that Africa could be described as the "region of female farming par excellence" because of the major contribution of women in farming there. Boserup's contribution in this area sparked a mushroom of studies thereafter, most of which report women's participation in food production in sub-Saharan Africa to be the highest in the world (UN/IFEM, 1986; FAO, 1984:3; Safilios-Rothschild, 1985:7; Dixon, 1982:558-559; UN/ECA, 1974). According to UN estimates (FAO, 1984), for example, women in Africa perform 60-80 percent of the total agricultural labour. Though, in general, African men perform the heavy jobs of land clearing, hoeing, and fencing, it is the women who weed, harvest, transport, store, process, and market the farm products in addition to feeding and caring for livestock. This notwithstanding, the contribution of women in agriculture has often been under-represented in official reports because their roles are not regarded as productive. Productive labour, according to these reports, is perceived as wage labour or cash crop production in which men play a major role. Women's contribution is viewed primarily as unpaid farm labour and is, therefore, perceived as supportive rather than productive. This perception is believed to be the major reason for the neglect of women in agricultural and development planning and hence a major source of most problems women face in farming (Mulikita, 1985:86; Safilios-Rothschild, 1985:310-311; Dey, 1984; Tinker and Bramsen, 1976:147).

Sierra Leone, like many other developing countries, is an agrarian economy with an estimated 60-70 percent of the economically active population in agriculture (FAO, 1988:66). According to the 1970/71 Agriculture Census Report, 45 percent of the figure above were women. It is reported that they provide at least 50 percent of all labour in food production (Longhurst, 1986:16). Although it is a fact that women play an important role in food production, Safilios-Rothschild's study (1985:307) indicates that agricultural development programmes have tended to neglect them. Supporting this assertion, Lisk and Stevens (1987:187) explain the neglect of female farmers in Sierra Leone largely in relation to

governmental agricultural policies. First they argue that the participation rate of women in agriculture could be underestimated because policy makers do not seem to have "a realistic conceptualization of women's work". Officially, productive employment is defined as:

> ... everyone who is either working (the employed) or available for work (the unemployed). It excludes ... those who, for some reason or another, are not willing to work at the time, i.e. students and busy housewifes (Government of Sierra Leone, 1974:21).

This definition also seems to ignore women's contribution to farming as a source of "productive labour".

The exclusion of women from agricultural development programmes in Sierra Leone is not a new phenomenon. Will and Hoque (1984:80) pointed out that the government expressed concern about agricultural development (at least in policy) as far back as the late 1960s. The National Development Plan recognized agricultural development "as essential for achieving long-term economic growth, balanced regional development and equitable income distribution". The 1974/75 - 1978/79 National Development Plan in particular specifically included integrated agricultural development as a strategy for rural development. But, according to Lisk and Stevens, it was not until the 1981/82 - 1985/86 Plan that government for the first time identified the role of women "as a gender specific group" (1988:186). Among other things, this plan "makes reference to the development of agricultural extension services for women farmers, facilitating their access to credit, fertilizers and other agricultural inputs ...". But whether these plans are, or will be, translated into effective action programmes is yet to be seen.

Thus it is clear that agricultural development in Sierra Leone, like other parts of Africa, has always neglected women and their role in farming. In a situation of scarce resources in particular, it is very easy to ignore a sector that is perceived as unproductive. For this reason, women farmers were ignored and no policies were formulated to address them and their problems. This trend is believed to have perpetuated inequality between male and female farmers (UN, 1985) and as a result, the latter are disadvantaged in their access to all food productive resources. In this study food productive resources are defined as "those inputs necessary for agriculture which improve the quantity of food output" (Mulikita, 1985:87). Lack of accessibility to land, extension advice, and credit form the core of some of these disadvantages. Policies of this kind which continue to neglect a sector that provides at least half of the labour in farming have led to "a waste of human potential" (Tinker and Bramsen, 1976:1) or "a

misuse of human resources" (ILO, 1982:). Stemming from this, one can conclude that as long as women's access to food productive resources is inadequate, their productive capacity will continue to be under-utilized.

1.2 Nature Of The Problem

The provision of agricultural services in Sierra Leone is largely the responsibility of the Ministry of Agriculture and Natural Resources (MANR). These are channelled primarily through the agricultural extension system. The most common of such services are the spread of improved farming techniques, farmer training, and the provision of information about other services such as farm loans. Other sources of these services besides the Ministerial system are large projects funded mainly by external donors (governmental and non-governmental) and Njala University College (NUC). NUC which is modelled after the landgrant college system of the U.S.A. was originally founded with a mandate to serve the rural community.

The importance of agricultural extension system in Africa has been noted by several analysts. Collins (1980), for instance, regards it as a key agency of development at the local level for two reasons. First, the extension system is one of the few arms of government whose staff attempt to penetrate down to the farm level. Second, it acts as an important point of access to scarce agricultural development resources such as farm inputs, advice and farm loans. According to FAO (1986) also, the agricultural extension system in Africa is the primary means by which the government channels information to farmers in an effort to increase agricultural productivity. But an assessment of the present system in many African countries cannot be expected to contribute much towards increased agricultural productivity (FAO, 1986; Vengroff, 1984). Although the situation in Sierra Leone seems to indicate that extension system is "relatively satisfactory" for male farmers, it does not seem to be the same for their female counterparts (FAO, 1987:4). A baseline survey carried out by the Adaptive Crop Research Extension - ACRE (1977) indicates that these services are predominantly male focused and oriented toward cash crop production. One can conclude from this that two very crucial areas are being excluded - women (at least one-half of the farmers in the country) and the food crop sector.

1.3 Study Purpose

The purpose of this study, is to examine those factors that constrain women farmers' access to agricultural services in Sierra Leone. In doing this, availability of extension services (advice/information

and training) which are the most common of the services provided for farmers in the country will be the major focus. Farm loan facilities for women will also be assessed because this is known to be positively correlated with the amount of extension services received.

1.4 The Importance Of The Study

Even though rural women play many crucial roles in agriculture in general, in Sierra Leone, this study focuses on the accessibility of certain agricultural services to them as food producers. There are two reasons for putting the emphasis of this study on these services. First, studies reveal that although the availability of agricultural services is generally low in sub-Saharan Africa, most of these services tend to favour cash crop production, the sector that constitutes the involvement of a higher percentage of men (ILO, 1982; Staudt, 1975/76; Abbot, 1975; FAO, 1975). Second, like most other African countries, Sierra Leone is experiencing a growing food crisis and there is need to consider possible ways of confronting the problem especially with attitudes toward women farmers who account for a large proportion of food production in the country.

Rice is the most important crop produced in Sierra Leone, because it is the staple food of most Sierra Leoneans. About three decades ago, Sierra Leone was called the "food basket of West Africa" because it was a major exporter of rice. Although it is still reported as the leading rice producing country in West Africa (Spencer, 1982), production rate particularly in recent years has not kept pace with increasing domestic demand. A major cause of this is believed to be the high population growth rate. According to census reports (1985), the average annual growth rate increased from 1.96 per cent for the period 1963-1974 to 2.31 per cent for 1974-1985. At this rate of growth, the projected consumption is estimated to increase from 2.4% per annum in the 1980s to 4.0% per annum in the 1990s (ACRE, 1983:2).

Table 1 shows rice production and imports figures in Sierra Leone for a period of over two decades. Production increased steadily up to 1974, but generally declined thereafter (at the same period the growth rate increased from 1.96 per cent to 2.31 per cent). Importation seems to have been filling the gap between consumption and production. Both quantity and value (US$) of rice imported not only increased, but more than doubled in 1975, and have continued to escalate. This means that meagre resources which could otherwise be used to purchase essential commodities that cannot be produced in the country are spent on food importation. The amount of money spent on importing rice has been increasing over the years, and this has led to balance of payment difficulties. If the present trend of falling food production

continues unchecked, health problems related to undernourishment and infant mortality, among other things, are likely to increase in Sierra Leone. The World Development Report (1987) shows that Sierra Leone already has one of the highest infant mortality rates in the world.

TABLE 1.1

RICE (PADDY) PRODUCTION AND IMPORTS IN SIERRA LEONE

	1965	1970	1974	1980	1985	1986	1987
Area Harv'ted (1000 ha)	301	332	370F	410	340	340*	357*
Yield (kg/ha)	1326	1379	1416	1251	1224	1544	1303*
Production (1000 MT)	399	458	524*	513	416	525	466*
Quant.Imp'ted (1000 MT)	18.9	86.9	42.3	41.1	92.2	90.2	97.7
Value Imp'ted (1000 US$)	256	1202	1786	1700	2639	2982	2900

SOURCE: FAO Production Yearbook (1972, 1976, 1982, 1986)
FAO Trade Yearbook (1971, 1976, 1980, 1981)
F: FAO Estimates
* Unofficial Figures

Looking at Africa's food production trends, population growth, and food importation, the case of Sierra Leone fits into the pattern quite well. In 32 of the 41 sub-Saharan countries, food production has lagged behind demand for more than a decade (FAO, 1984:1). According to USDA statistics (1981), this is the only region in the world where per capita food production declined between 1960 and 1978 while at the same time population growth rate steadily increased (from 2.7 per cent to 3.0 per cent). Conversely, food imports have risen significantly in this region, especially for wheat and rice. For example, the import figures increased from 1.2 million tons a year in 1961 to 8 million tons a year in 1980 with an estimated total value of $2.1 billion (US). All of this dramatically points to the urgent need for increased food production in this region.

Suggested solutions to these problems have been many and varied. Henn (1988:315) argues that for a long time policy discussion has focused on issues like market prices and technological change as solutions to some of these problems. Only recently, she continues, have planners started to address issues like who the food growers in Africa are, conditions under which they work, and what can be done

to increase their productivity. It is perhaps in the same vein that Lele argues that "most African countries are not giving priority to the development of peasant agriculture. There is not even much understanding of what is required to develop it" (1984:437).

Concerns of this nature probably inspired various international declarations calling for an active bias towards women and their contribution in farming as a strategy to redress the deteriorating food situation (FAO, 1983; Lagos Plan of Action, 1980; UN Women's Decade Conference, 1980; WCARRD, 1979). These declarations, among other things, recommend the provision of equitable access to all food productive resources for women. An assessment of the impact of this recommendation made nearly one decade ago based on the discussed food trends, shows that Africa has made very little progress. To achieve equity, particularly for limited resources amidst other constraints is a tall order. Fundamental issues to be raised in this direction include questions such as: how many of these resources are available now for the women; are there factors deterring the availability of these resources for them; and if so, what are they and how can they be removed to promote equity and enhance women's production as food growers.

Very little research has been undertaken in Sierra Leone to assess the above, with particular focus on female farmers. The few studies undertaken have either only cited female farmers in a general context (Kaindaneh, 1989; Tommy, 1982; ACRE, 1977; Spencer, 1970), or focused entirely on male farmers (Gboku and Jibowo, 1988). Lack of adequate research means the barriers which women face in obtaining these services cannot be properly diagnosed and therefore meaningful remedies cannot be prescribed. There is, therefore, a need for an analysis of the situation and those factors that perpetuate them, so that planners and policy makers can better address women's needs as they attempt to increase their productivity. It is in this rationale that the significance of this study lies.

In the few African countries where more studies have been undertaken and attempts have been made to promote equitable access, favourable results have already been seen. In Tanzania, for example, when access to agricultural inputs was equal for both male and female farmers, Fortmann (1979:279) found no significant differences in maize output between gender groups. In Kenya and Botswana, Moock (1976:831-833) and Lucas (1979:46, 60-61) discovered that output per acre was even higher for females than males when provided with equal inputs. And in Malawi, Gladwin (1987) discovered that women received greater or equal yield of local maize variety than men with equal access to credit. Although

these results are too locally specific for any major generalizations, they nevertheless provide sufficient evidence to prove that given access to productive resources, women can produce as much on the farm as men.

Benefits from providing equitable access to food productive resources for female farmers can be considerable if carried out on a larger scale. First, it can lead to an increase in food production so needed in Sierra Leone and other African states. Second, it can lead to improved diets, as women generally have an obligation to produce food for household consumption first. Finally, it can be a way of alleviating rural poverty as surpluses are marketed to improve the standard of living of women, their families, and their communities as a whole.

1.5 Objectives Of The Study

The general purpose of this study is to investigate the factors that constrain rural farm women's access to certain aspects of agricultural services in the study area. These are:

a) To assess the women's access to extension services in the form of advice/information and training, and farm loans.

b) To identify the women's perceptions of the factors that constrain their access to these agricultural services.

c) To assess the women's perception about strategies appropriate to removing constraints to the provision of these services.

1.6 Hypotheses

As has been indicated, the available literature suggests that women's access to agricultural services is generally low in Sierra Leone. There is, however, a lack of in-depth understanding of the factors responsible for this, probably because of the very limited empirical research that has been undertaken in this area. Also, there is little knowledge about causes for differences that may exist in women's access to these services other than perhaps a few socio-economic factors. Since the theoretical thrust of this study is based on gender ideology, this is assumed to be the most important differential factor.

The first hypothesis is that women's access to agricultural services will be related to male-presence. Specifically, women in male-headed households will have more access to agricultural services than women who are heads of their own households.

The second hypothesis is that women's access to these services will be related to certain socio-economic characteristics. Specifically, women with better access to these services will have the following socio-economic characteristics:

i) they are younger

ii) they have a higher education

iii) they have a secondary occupation

iv) they have higher sources of income.

v) they are responsible for fewer people.

Women whose husbands have the following socio-economic characteristics will have greater access to these services:

i) they are younger

ii) they have higher education

iii) their main occupation is farming

iv) they have a secondary occupation

v) they have only one wife

vi) they are responsible for fewer people.

The third hypothesis is that differences in accessibility to agricultural services is related to distance from Njala (where the university is situated). Specifically, that women who live in villages closer to Njala will have greater access to these services than women who live in villages farther away.

1.7 Assumptions

This study is based on a number of assumptions:

a) That rural farm women have relatively little access to agricultural services in Sierra Leone at present.

b) That women's access to agricultural services is not only low but also has been decreasing over the years.

c) That certain factors of a socio-cultural nature are constraining women's access to these agricultural services.

d) That an increase in women's access to agricultural services can enhance food production since they are largely responsible for food crops in Sierra Leone.

1.8 Limitations Of The Study

The major limitation of this study is the lack of financial support for the researcher to travel to Sierra Leone to collect data. As a result, the survey interviewing is carried out by the researcher's husband with the help of some university personnel experienced in survey data collection .

The second limitation concerns the design of the interview schedule in English even though the target population is largely illiterate. This is because the indigenous languages of Sierra Leone are largely unwritten, the result being that most people can only speak them. Therefore, only interviewers who are fluent in both English and the languages spoken in the study area will carry out the interviewing. The medium of interviewing will be determined by respondents and questions will be translated by the interviewers during the interviewing period. It is recognized that certain vital information could be lost in the process.

The final limitation is related to pretesting. Fowler (1988) states that this can be more fruitful if the pretest group shares similar characteristics with the target population. Resources and time factors did not permit this. The main similarity between the pretest group and the target group is that they are African women with rural farming backgrounds currently residing in Edmonton. It is hoped that this similarity will help in establishing at least the content validity of the various questions in the interview schedule.

1.9 Plan Of The Thesis

This study is organized into six chapters. Chapter one introduces the problem and its setting. Much of the discussion dwells on the background of the study, the nature of the problem, and the importance of the study. The objectives, set of hypotheses to be tested, and the underlying assumptions of the study are stated. The chapter ends with a discussion on the limitations of the study and an outline for the presentation of this work.

In chapter two, the theoretical perspective on which the study is based is presented. The discussion here is under two broad headings - the conceptual analysis of the problem and the effect this has on women and their accessibility to the agricultural services under investigation.

Chapter three contains the research design and methods. It begins with a discussion of the selection of the study area, followed by a general description of the study area. The sample selection processes are also explained, together with the data collection method and design. The chapter ends with an explanation of the statistical methods used in analyzing the collected data and its reliability and validity.

Chapters four and five present and discuss the findings from the analysed data. In the first half of chapter four, descriptive statistics give the general socio-economic characteristics of respondents and their accessibility to extension advice/information, training, and farm loans. The second half of the chapter focuses on results regarding the relationships between women's accessibility to the related services and certain independent variables of the study, and also the outcome of the stated hypotheses.

Chapter five explains what the women in the survey perceive to be the main factors that constrain their accessibility to these services, and their suggestions as to how these constraints can be alleviated.

Chapter six, which concludes the study, contains a summary of the important findings therein. Recommendations are made, based on these findings, to enhance the provision of these services for the women to increase their agricultural productivity.

CHAPTER II

THEORETICAL PERSPECTIVES ON THE PROBLEM

2.1 Gender As An Analytical Concept

Over the past several years, "gender" has emerged as a powerful analytical concept for scholarly investigation. This is especially true when issues arising from sexual differentiation are a result of gender relations in a society. Such relations are shaped by diverse factors and for effective analysis, several of these factors must be considered. Schoepf and Schoepf emphasized that gender relations "cannot be separated from other social dynamics" (1988:123). Similarly, Lindsay noted that an analysis such as this "provides a succinct overview of various components in the nature of ... relationships" (1980:6). And for Parpart and Staudt, gender "is central to any and all efforts to conceptualize the 'modern' state, whether it be its historical origins, current composition, or management of the extraction and distribution of resources" (1989).

The use of gender here as an analytical tool demands a distinction between the terms "sex" and "gender". This is because although the two are related, it is the exact nature of this relationship that has been the basis of much contention. Rogers (1980:12) makes a simple but powerful difference between the two. She regards "sex" as a physical distinction and "gender" as something social and cultural. A more detailed definition by Garrett shows "sex" as "the biological differences between males and females" and "gender" as "the socially-determined personal and psychological characteristics associated with being male or female, namely 'masculinity' and 'femininity'" (1987:vii). For Sullivan and Thompson (1988:215), male and female are sex-related terms - the innate biological features of sexual identity. They define the term "sex" as "the biological role that each of us plays in reproduction". Masculinity and femininity are however regarded as gender-specific terms, hence "gender" is "learned behaviour involving how we are expected to act as males and females in society". What needs to be examined here is how these two terms - "sex" and "gender" contribute to gender relations and therefore sexual differentiation in societies. Views expressed on this will be discussed under two broad groups of factors, i.e., biological and societal factors.

2.1.1 Gender and Biology

Many people believe that innate biological differences are very influential in shaping gender relations between men and women in a society. Tiger and Fox (1972), for example, use this perspective

to explain gender roles. They argue that men and women have different "biogrammers" (genetically-based programmes) that predispose them to behave in distinct ways. Male biogrammers make men aggressive and dominant, while female biogrammers make women have children and care for them. They assert that these distinct biogrammers explain and justify men's dominance of societal decision-making and politics, and female domination in childcare.

Murdock (1949) uses this concept to explain sexual division of labour. He sees women's tasks basically as determined by their nature which is why he refers to them as "natural labour". Men's tasks, on the other hand, are considered as "trully human". That is, they are "conscious, rational, planned, and productive".

It is from this standpoint that functionalists argue that certain tasks were allocated to men and women respectively, particularly in preindustrial societies, because the arrangements were more convenient and practical. Even when industrialization brought the separation of work from family life, women tended to be isolated in the family and were given prime responsibility for home making and childcare duties, whereas men went out and worked. Parsons (1959), for instance, divided sex roles along the lines of what he calls "instrumental" and "expressive" tasks. Males are seen as having responsibility for most instrumental tasks in the family, meaning the provision of economic support and links with the world outside the family. Expressive tasks - the tasks of caring for the physical and emotional needs of the family - are seen as primarily women's responsibility. This explains why functionalists assert that any activity which takes women away from this sphere is "un-natural" and is implicitly condemned. It can therefore be concluded from this perspective that, biologically dertermined roles between sexes suggests that gender relations is beyond the scope of social change.

2.1.2 Gender and Society

Feminists and other people who have attacked "biological essentialism" (the idea that men and women are determined by biology) maintain that culture, rather than biology, determines social relations between men and women. For instance, Oakley (1972), for instance, argues that "male" and "female" should be viewed as categories at opposing ends of a continuum which overlap considerably in the middle. Because of this, there is great variation in the biological characteristics of males and females, and some

characteristics are not confined to just one category. Taking hormonal differences between men and women, for example, Oakley argues that males and females have the same sex hormones present in their bodies though in different quantities.

Those who hold the view expressed above argue that it is incorrect to categorize sexual division of labour as natural labour (female's tasks) and human labour (male's tasks). To do so means to say social roles of men and women are innate and unchangeable. Also, to make that assertion portrays a relationship of dominance and produces an asymmetric, and even exploitative relationship between males and females in favour of the former. They caution that division of labour should be viewed as a dynamic relationship between males and females. Such a process portrays a reflection of "social customs, norms, and beliefs which govern and circumscribe individual behaviour". It is in their view then that sexual division of labour and roles are socially, not biologically determined, and therefore susceptible to change. The next section examines this process within the African context.

2.2 African Women In Agriculture - A Conceptual Analysis

The attitudes and practices that continue to disadvantage women farmers in sub-Saharan Africa seem to have persisted for a long time now. Davison (1988) attributes the persistence of this problem to socially constructed relations, affected by both historical trends and cultural attitudes. Several aspects of such relations feature in the literature, and without downplaying them, this study shall consider only those factors that affect women's role in agricultural production. These will be classified into gender-structuring, gender division of labour, and gender relations of production.

2.2.1 Gender-Structuring

Davison uses this concept as a tool for analyzing gender relations in Africa. She defines gender-structuring as "the process through which a society structures relations between females and males" (1988:4). This means it is a socially imposed phenomenon. This is what Safilios-Rothschild (1985:299) calls sex stratification. She defines this as a situation where one gender is ranked higher than the other. In such a situation, she argues, only the higher ranked gender will make major decisions and control the valued resources in the society. These valued resources include wealth, income, credit, knowledge, valued skills, valued income-generation activities, food, power, and prestige. She affirms that

the male gender has practically always been ranked higher than the female gender, in most of Africa. For Ellis (1988), this concept is what explains the subordination of women and/or patriarchal systems as both ideas relate to the inferior status of women in all its forms.

Those who focus on gender-structuring as an explanation of some of women farmers' problems in agriculture emphasize that one major consequence is that it creates mechanisms that hide the contribution of women in agriculture, as their work tends to be viewed as secondary and subordinate to those of men's. Dey (1984:26) suggests that this results in men being ranked as household heads, with everything under their control - land, labour, crops, and finances. Hence the household heads (invariably males) participate in agricultural developments while the women remain invisible.

2.2.2 Gender Division of Labour

Closely related to gender-structuring is gender division of labour. Ellis (1988:166) uses this concept to describe "the socially defined allocation of tasks between women and men in peasant households". He stresses that gender in this context is used "as a shorthand for the social meaning which is attached to the roles of women and men in different societies". The importance of roles in explaining this concept is even greater for Rogers (1980). She states that in considering division of labour between men and women in societies, she is almost exclusively talking about gender roles. Since she believes that these are formed through learned behaviour, culture is of crucial importance in the process.

In a similar vein, Turner (1968:555-556) explains role as a product of societal values. He affirms that roles "tend to be shaped in accordance with the pattern of roles in situations of greater generality and social significance". In this process, differentiation tends to link roles to social values, which is why he argues that status is an important point of anchorage of values. Turner therefore regards values as one of the major bases of recognized roles in society. Since the position of males generally in Africa (as already discussed) accords them a higher status compared to females, males seem to be that point of value anchorage.

It can be concluded from the above arguments that in many cases such a relationship gives men advantage over women, the result of which has been gender inequality. Mullings explains that such inequality means "society's resources are appropriated by certain social strata ..., which limits access to resources for the other strata". This explains how women's roles as perceived by the society (in most cases by males) have been shaped over time (1976).

Another dimension to the issue of gender division of labour goes beyond job performance and the status attached to it by gender. Muntemba (1982:46) calls this men's control over women's labour and that of labour's products. She contends that traditional laws have always allowed men to control the labour of women in most of Africa. They demand women's labour in cash crop production (weeding and harvesting), and as a result, women are sometimes forced to spend less time in food production. Men also control the use of more efficient tools and methods of production. For example, in parts of East Africa, while they used oxen-drawn ploughs for cash crop production, women (who could not afford the hiring cost) used only hoes in food crop production. Thus, Muntemba points out, women are heavily over-worked and their ability to produce food has been deteriorating as a result.

2.2.3 Gender Relations of Production

This last gender issue, though somewhat related to the concepts already discussed, focuses on the social and economic relations of production. This is in the realm of what Davison classifies as gender relations of production. She defines this as:

> socio-economic relations between females and males that are characterized often by differential assignment of labour tasks, control over decision-making, and differential access to and control over the allocation of resources ...(1988:3).

It is in this light that relations of production at all levels can be defined. This is also how women's and men's control over various aspects of production and the allocation of resources in the society can be determined. Examples of such instances include who controls and decides how resources could be used; who the beneficiaries are; if this type of relation increases or hinders production. Many more such decisions are determined in a similar manner. This is why Davison believes that this type of relationship is shaped by social relations of production, which in many cases, has given men advantage over women thus resulting in gender inequality.

2.3 Framework For The Study

The reviewed literature gave several explanations of how gender relations contribute to sexual differentiation in societies. In this study, differentiation specifically refers to differences in men's and women's access to agricultural services. How "sex" and "gender" contribute to sexual differentiation in general has been discussed from two main perspectives. These will be examined in the context of women farmers' limited access to agricultural services in Sierra Leone vis-a-vis their male counterparts.

The argument from the biological perspective has been that innate biological differences between men and women shape the contributions that each makes to society. For instance, Parsons (1959) justifies division of labour by sex in terms of the female's greater biological suitability. His division of these roles into instrumental (male tasks) and expressive (female tasks) means male tasks are "productive" while female tasks which concern relationships between people such as happiness and emotional stability are not productive. This argument explains the dominance of males in society and its "rewards".

In Sierra Leone (like most of sub-Saharan Africa), both men and women have always been involved in food production. In fact, it is because of the high degree of women's engagement in farmwork in this region (the highest in the world) that Boserup (1970) categorizes it as a "female farming system". This means women's contribution to the support of this society is significant. Although men and women generally have different farming tasks, with high migration from rural Africa, more women are forced to perform male tasks in addition to their farming jobs. Some studies, in fact, show that small holder agriculture in Africa is becoming more feminized (Guyer, 1984; Kydd, 1982; Chaney and Lewis, 1980; Rogers, 1980). Despite this, women's access to agricultural services remains very limited in most of Africa. If performing "instrumental tasks", as argued by functionalists and others, determines accessibility to these services, both men and women farmers in this region should have equal access to them. This is not so however. Rather, women farmers are greatly disadvantaged. This means biological differences do not explain sexual differences nor do they explain why women farmers' have unequal access to agricultural services in Sierra Leone.

The alternative argument is that biology is not the central element in explaining the continued persistence of sexual differentiation in societies. Rather culture is. This view posits that differences develop through a dynamic process between males and females and that this process reflects the society's customs, norms, beliefs and practices of the people involved. Examined within the historical context of Sierra Leone, this perspective seems to explain why women's access to agricultural services is so low.

Before colonial rule in Sierra Leone, women's and men's role in farming were believed to be complementary in the sense that division of labour was largely defined in a system based on age and sex. Male and female tasks were different but since they were interdependent, an atmosphere of reciprocity of effort was promoted. Production then was primarily for use hence men and women were not differently rewarded for the products of their labour. There was therefore no reason to suppose that women's tasks

were of lesser value than those of men. Within such a system, it is argued that gender relations of production were essentially along parallel, rather than hierarchical lines. Thus, it is further argued, access to production resources was likely equal (Steady, 1987; Brydon, 1985; Dey, 1981; Mullings, 1976; Boserup, 1970).

The introduction of the colonial economic system is believed to have brought about profound changes in production relations between male and female farmers in Sierra Leone. Agricultural policy, then, was to develop those cash crops (oil palm, coffee and cocoa) which had European market value. Such crops were promoted through male farmers. This marked the tying of market exchange to the division of labour in Sierra Leone. The emphasis on quantitative relations in commodity production (i.e., monetary exchange), brought about a separation between production for exchange and production for use. Production for exchange (cash crop production) that involved mostly men became viewed as an economic activity, while production for use (food crop production) which was largely women's domain was not. Thus activities falling outside the market mainstream were considered peripheral to the economic system and were therefore not "economic". It is within this context that "active labour" was defined. That is, only when work became "commoditized" (production of goods and services for exchange) was it regarded as an economic activity.

As males took advantage of the new economic opportunity, their role as wage earners superceded that of being food producers, as their interests were diverted into cash crop production. Along with their policies therefore, the colonial masters introduced a new value system in agriculture, channelled through the group (males) whose tasks in farming were perceived to be more important. This same production pattern was followed by governments in independent Sierra Leone as cash crops became important sources of foreign exchange. As the "value" for cash crops increased, that for food crops decreased. And as the significance of the male role in farming rose, that of females fell. Eventually, men controlled the means of production as they controlled the cash revenue, increasing their power within the family. This type of relationship has produced hierarchy, control, and a big difference in access to agricultural services between male and female farmers.

From these analyses, it is obvious that society has largely influenced gender relations of production in Sierra Leone. It has, through time, tempered resource-allocation decisions greatly in favour of male farmers through the development of capitalist relations of production which viewed agricultural

development as a male-oriented phenomenon. The result is that women have been squeezed out of the core of agricultural production and thus have been denied equal access to agricultural services. The next section examines the overall effect of this type of relationship on women's access to the agricultural services under study.

2.4 Gender Relations And Women's Access To Agricultural Services

The principal objective of an agricultural extension system, as emphasized in the FAO Report (1983) "is to extend information to all farmers so that research findings and improved cultural practices may be used to increase the efficiency of the producer". Considering the present situation of most sub-Saharan African countries, it is perhaps unrealistic to set such an objective. There is clearly a lack of resources to achieve this in the near future. Even in those African countries with "relatively better extension systems", reports show that these services are generally low. A recent report for FAO (1987:161) from four such countries gives an estimate of the number of farm families served by one extension worker. In Kenya, the figure runs between 384 and 637. In Sierra Leone, it is estimated to be around 500. In Zambia and Zimbabwe, it is stated to be about 610 and 850 respectively. While this may be generally reasonable within a training and visiting system, reports from these countries and other parts of the continent show that males have better access to these services than females. In Kenya, for example, Staudt (1975/76) reports that male farm managers were 14 times more likely to have been contacted by extension workers than female farm managers. Comparative studies on women who manage farms with their husbands and those who manage their farms alone further show that the former have better access to these services (Fortmann, 1977; Staudt, 1975/76; Bond, 1974). This persistent skewness in favour of male farmers/male present farmers has been explained as gender bias or discrimination against women. Discrimination in this sense is more a matter of behaviour rather than attitude. This is what Patterson defines as "the differential treatment of persons ascribed to particular categories ..." (1963:21). In agreement with this, Staudt (1975/76:81) contends that "from a bureaucratic and economic perspective, (this) discrimination might be seen as the most efficient use of scarce resources" where preference is constantly shown for male farmers. This is why it is argued that this type of discrimination is largely a product of gender relations in Africa. The consequences of this will be analyzed within the various concepts already discussed.

The effect of gender-structuring on women's access to agricultural services in Africa can be explained in two ways. First, males who are ranked higher have control of valued resources including knowledge. Most extension workers are males. According to FAO (1983:3), about 90 percent of these "by habit and cultural custom regard farmers as males". This is one reason why they tend to focus on other males with both information and training. Another explanation is that extension workers assume that extension efforts can reach the women through their husbands. Reports however indicate that it is doubtful whether this happens on any significant scale (FAO, 1983; Ashby, 1981; Fortmann, 1977).

Several factors limit the "trickle of information across" from males to female farmers. First, extension arms farmers with new and useful knowledge to improve the farmers' agricultural production. To achieve this is a mark of success. In traditional Africa, success at most things is "enveloped around certain supernatural powers" and these become "top secrets". Such secrets are rarely shared with other males, much less with women who are perceived to lack the "will power" to keep secrets. Also, male and female farmers have quite distinct spheres in the farming system. They may grow different crops altogether (cash crops as opposed to food crops), or they may have different tasks. In such a situation, male and female farmers are likely to have distinctly different interests, different problems, and therefore different solutions. Boserup (1970:55) cites an example from Senegal, West Africa, where Chinese instructors taught only the men better techniques in paddy production. According to her, the men took no notice since their wives were the cultivators. The wives continued with their old methods as they were not taught the new skills.

Gender "superiority", reinforced by cultural practices also makes it easier for male extension workers to focus on other males. Culture dictates that adults interact more with the same sex especially in public. It is unacceptable, for example, for a man to be seen interacting a lot with women, even his own wife/wives. Such a man is not a "real man". Even at the family level, husbands and wives rarely spend time discussing things in the house or in public. So for an extension worker who is not only male but also a stranger, these are good grounds for ignoring female farmers altogether.

Another way in which gender-structuring affects women is that males make major decisions and this gives them the power to control agricultural services even if directed towards women. A more effective way, for example, of providing these services in areas of low resources is in group settings. But this method has not been effectively used for women. In the first place, attendance has to be with the

approval of husbands or male figure heads. In addition, women have such multiple roles that they hardly find time to attend these meetings. The men offer little help in this direction because with distinct sex roles, it is demeaning for a man to be seen performing the duty of a woman such as cooking and childcare. All of these restrict women's activities outside those "priorized" by the "male society".

Gender division of labour deals with the allocation of tasks and social meanings attached to these tasks. In Africa where men and women have distinct roles to play in farming, different meanings have been attached to these tasks, particularly after the introduction of the money economy. Rodney summarized this effect on African women thus:

> ... since men entered the money sector more easily and in greater numbers than women, women's work became greatly inferior to that of men. Within the new value system of colonialism men's was "modern" and women's was "traditional" and "backward" (1974:227).

The overall effect of this is exhibited in gender relations of production where the productive roles of a sector as perceived by the society shape the productive potential of that sector. The males who are concentrated in cash crop growing are perceived to be more productive. It is in the direction of cash crop production that most innovations have been channeled to, and as a result it is men that have been allotted more information and training because of their dominance of this area of production. Women on the other hand, whose tasks are heavily in the "unpaid" subsistence sector are considered as unproductive and hence have been provided fewer of these services.

The "productive" male has an added advantage over the "unproductive" female - that of income earning capacity. Extension knowledge, even if extended to all, can only be productive in this region if backed by the money to purchase the required inputs. Such inputs are known to go largely into cash crop production as the male farmer sees it as an "investment" for his own farming activity (Dey, 1983:28-29). The same farmer would, however, be very reluctant to acquire inputs for his wife. Her farming activity being largely subsistence is not "worthy" of such investment. As a result, women and their activities are being more and more excluded from extension benefits.

Farm loan is considered as a vehicle that carries other services to farmers, especially women farmers who are among the poorest in the world. This makes access to agricultural services closely linked with access to credit. The sources of this credit could be classified as formal and informal. The formal sources are credit provided by governments or government-controlled lending institutions. These loans usually operate on a long-term basis and have realistic interest rates. The informal sources, generally called

moneylenders, on the contrary, run on a short-term basis and demand high interest rates. Notwithstanding the clear advantage of the former, it is believed that the bulk of rural small farmers (the majority of which are women), resort to the latter source (FAO, 1964:1). Reasons for this could be explained as by-products of gender relations in Africa.

As already noted, gender relations are such that males are in control of valued resources including knowledge and wealth. In the first place, information about loans from formal sources are mainly generated through co-operative memberships in rural areas. Such memberships are predominantly male-oriented. Female memberships are low because of institutional barriers, and all-female co-operatives are very few for the same reasons. Furthermore, these formal sources insist on tangible assets as security/collateral for loans. The most common forms of collateral in rural areas - land, title, cattle, house, and plantation - are all in the control of males. Also, patrilineal rules in Africa make women's inheritance to wealth very low.

Men's control over these assets limit women's access to farm credit in another form. In most cases, men are required to guarantee loans either for their wives or as male heads. In polygamous homes in particular, this can pose problems. Traditional laws do not allow women to have direct claim over their husband's wealth. For a man with more than one wife, this makes it harder for him to use his wealth as security for the wives. Under these conditions, FAO affirms that "credit tends to be rationed not according to needs, nor prospective net increase in the farmers' production, but in terms of the available material security required by the ordinary banking practices" (1964:1). Based on this, Loutfi (1987) contends that women are disadvantaged as a result of discrimination against them. This same system, however, puts males in the advantage which gives them more access to loan facilities (Dietel, 1982; Henn, 1988; Gladwin and McMillan, 1989).

To conclude in the words of Cloud and Knowels, "as long as gender arrangements leave women poorly placed to gain control of productive resources, gender relations will remain central to women's (and by large Africa's) agricultural problems and solutions" (1988).

CHAPTER III

RESEARCH DESIGN AND METHODS

3.1 Selection Of The Study Area

The setting for this investigation covers four chiefdoms in Moyamba District in the southern part of Sierra Leone. They are Dasse, Kamajei, Kori, and Kowa Chiefdoms (see Figure III.1). These four chiefdoms were selected because they have had a long history of "contact" with agricultural services, dating as far back as 1911. For the purpose of this study, this period of "contact" will be divided into colonial and post-colonial periods.

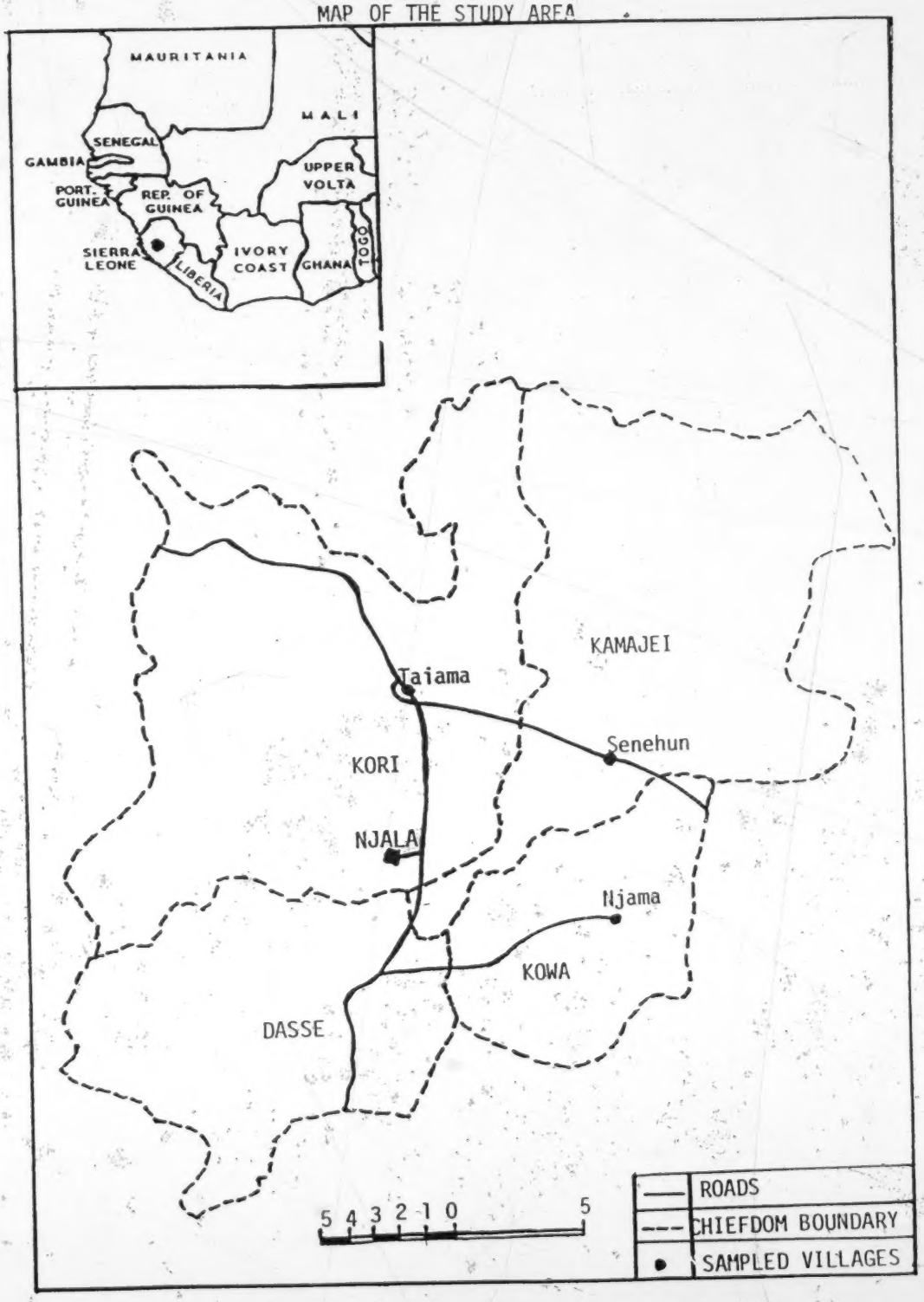
3.1.1 Colonial Period

When the Department of Agriculture was first created in Sierra Leone in 1911, an Agriculture Experiment Station was established at Njala (Kori Chiefdom). Although other agricultural stations were later opened in different parts of the country, Njala remained the main centre for agricultural research as it was then the headquarters of the Department of Agriculture. Agricultural extension, "the passing on to farmers of approved and tested information and recommendation", was a recognised function of this Department even though very little real extension was carried out. The limited staff and resources available at the station were heavily absorbed in executive and administrative functions and a bit of research work. Perhaps, the recognition of this problem led to the establishment, though much later, of an Agricultural Training Centre in Njala to train intermediate level staff in related agricultural fields. These trainees later became agricultural instructors, animal health assistants etc. that carried out limited extension functions at the national level under the auspices of the Department. As the Training Centre expanded, it incorporated teacher training as well.

3.1.2 Post-Colonial Period

Independence in 1961 brought about acute staffing problems as the majority of the expatriates who held key positions left the country. As a result, although the new government fully accepted the need for extension programmes, it lacked both the manpower and resources to launch them. Acting on one of the main recommendations of the University of Illinois Survey Team and with assistance from the United States Agency for International Development (USAID), the Training Centre was converted into Njala University College (NUC) in 1964.

FIGURE III.1
MAP OF THE STUDY AREA



NUC provided training at both certificate and degree levels, with emphasis on "training in agriculture and education to produce staff to serve the agricultural sector and to produce teachers of secondary schools and teachers of training institutes". In addition, the Government (1964) decided that "all extension work of an educational nature supported from government funds should be transferred to the new NUC". It did not take long for the government to realise that this was an inconceivable task to be accomplished by a newly established institute. It lacked adequate staff, buildings and other vital resources. In 1968, the government amended NUC's obligation. It was allocated an area roughly 25 miles in radius from Njala "to serve as a testing ground for research and services related to agricultural extension". This geographical area covers the four chiefdoms for this investigation.

Another source of extension service for the study area came into operation from 1981 to 1987 in the form of a project - Adaptive Crop Research and Extension (ACRE). The project was jointly sponsored by the Government of Sierra Leone through the Ministry of Agriculture and Forestry (MAF) and USAID. It was run by three institutions. MAF provided the extension personnel, while USAID and NUC provided the scientific staff. The ACRE project was specifically designed "with the main objective of developing an adaptive agricultural research and extension system which will facilitate the increase in small holder food crop production and ultimately income" (ACRE, 1983:6). The project was charged, among other things, "with the responsibility of developing and testing on farmers' fields appropriate agronomic practices for use by small holder farmers in Sierra Leone". It operated in five zones in the country, and a 25 mile radius centred around each zone was allocated as testing ground. Njala, one of the zones, was the project headquarters. Its testing ground covered five chiefdoms, two of which are in the study area - Kori and Kowa chiefdoms.

The project depended on contact farmers in each zone to disseminate innovations. These contact farmers were defined as "farmers on whose plots method and result demonstrations are carried out by ACRE extension personnel. They are the first to adopt a new technology and then act as change agents to their neighbours" (Kaindaneh, 1989:10). A baseline survey carried out at the beginning of the project in 1981 reported that extension contacts were low in the two chiefdoms that make up part of the study area. Of the farmers interviewed, about 95 percent and 55 percent in Kori and Kowa chiefdoms respectively reported having no extension contact that year. This perhaps reflects the general level of extension work undertaken in the whole study area at that time. Two years after the phasing out of the

project, Kaindaneh (1989) reported that two of the crops promoted by the project are still retained by about 56 percent of the contact farmers. According to these farmers, the most successful method employed by the project to reach them was through result demonstrations on their plots. This may be an indication that extension efforts may have increased in this region while the project was in operation.

This overview of extension/extension-related activities carried out over the years shows the region's long history with agricultural services, perhaps longer than any other region in the country. An assessment of the availability of these services for women farmers in this region may form a basis for comparison with most parts of the country where there has been no such "contact". If, for instance, results show that the women in this region have little access to agricultural services after such a long contact, it can be inferred that certain factors have hindered/are hindering them from getting access.

3.2 General Description Of The Study Area

The selected chiefdoms lie in the inland plains of the country and are generally below 500 feet. These plains have scattered swamps with shallow valleys and hollows. They have been described as areas with good prospects for rice cultivation (Clarke et al, 1972:14). The drainage network, like most parts of the country, is pretty extensive. One of the country's major rivers, River Taia, flows in this region. Three of the region's largest settlements are situated along this river.

Climatic conditions are generally like the rest of the country. Temperatures are high throughout the year, with a mean of 80 degrees fahrenheit. There are two seasons: a dry season (December to April) and a wet season (May to November). The average rainfall is between 100 - 120 inches, falling mostly during the wet season.

It is believed that this area was originally covered by high forests. Except for a gallery of forest along the River Taia and in other isolated places, most of the area today is covered by farm bush. This is largely a result of slash and burning, and varying degrees of fallowing (the main farming system). Clarke calls this a woodland vegetation. In the eastern part of the region is a mixture of farm bush and grass.

The predominant language spoken by the people is Mende. The Mendes in this district are culturally distinct from the Mendes in the rest of the country because of the existence of the Wunde Society. Wunde Society is the traditional male secret society that prevails in this region. There is also a female secret society (bundo), although this is present all over the country. These societies, like other

traditional secret societies, have been functionally described as "having a pan-community character that control much of the political, administrative, educational, and religious life of the farmers involved in their practice" (ACRE, 1983:43). Politically, the societies were used to develop a group purpose and cohesion among its members. They had central authority such that even today, to occupy certain positions of power in the loca. political structure of the chiefdom requires membership in the Wunde Society. Gittens (1987) states that the educational role of these societies may have been likened to " 'finishing schools', 'trade schools', or other institutions of learning". The wunde society taught new members, among other things, tasks of male adults such as marital responsibilities, techniques of war, hunting, and agriculture. Bundo emphasized behaviour norms for women, transmitting cultural values, developing leadership skills, and providing medical and vocational education. The religious function was rooted deeply in the belief and respect for the spirit world in which ancestors had major roles.

Today, many of these functions have been eroded through colonization and westernization, but the societies still have significant social impacts on their members. For instance, the ACRE baseline survey (1983) affirms that farmers still see these societies as "a determining factor in the unification of the farm family unit". This has both positive and negative effects on farming. In the positive sense, the societies normally exert pressure on the farmers to increase food production in order to meet the demands of the initiation ceremony. The negative effect is that if the ceremonies clash with farm activities, the latter generally suffers as friends, relatives, and other society members are expected to attend the various activities. For the Wunde Society in particular, where women are much more involved than other male secret societies, they too get tied up in these activities. In this ACRE survey also, a high percentage of farmers indicated that the ceremonies affected the early farming operations most - brushing, ploughing, and transplanting. This means that as long as the people feel the need for these societies in their culture, there is need for them to be recognized. For extension work that especially involves farmers and farming, it is important that plans be made within the social framework of the farmers for these to be successful.

Agriculture is the main economic activity of the people in this area. The main food crops grown are rice (the staple food), sweet potatoes, cassava, oil palm, and vegetables. These are produced for both home use and for local sale. About 25 years ago, ginger was the principal cash crop of the region, and

indeed an important cash crop of the country, as it then had export demand. Only recently has local demand risen for the making of local beverage (ginger beer). So, though not on a similar scale, ginger is still an important cash crop.

NUC and its present "attached" institutions - Certificate Training Centre (CTC) and the Integrated Agricultural Research (IAR) - are the main sources of employment in the region. CTC trains agricultural instructors/extension workers at the certificate level, a function carried out by NUC until 1980/81. The IAR is a new project that started after the phasing out of ACRE in 1987. Although both establishments are autonomous bodies, they rely, to some extent, on the senior staff and other facilities of NUC. Njala and its environs are also important trading centres, particularly for local foodstuffs.

3.3 Selection Of The Sample

3.3.1 Village Sample

The background information provided indicates that all four chiefdoms are fairly homogeneous in terms of ecology, culture, and basic economic activities. Perhaps the factor that creates the most differences in accessibility to agricultural services among the chiefdoms and their women residents is NUC and other institutions located at Njala.

Kori is the largest in size and the most populated of the selected chiefdoms. This is where Njala is located. Although Taiama (about 6 miles from Njala) is the chiefdom headquarters, Njala has attained a very prominent position within Kori chiefdom and among the other three chiefdoms. With its university, training centre, a secondary school, and two primary schools, Njala provides the most educational services in the study area. Added to these institutions are the IAR, a health centre, and a Commercial Bank that provide employment and other services far greater than any other settlement in the study area. Studies have shown that both education and access to income have positive influence on accessibility to agricultural services. If this is true of this region, then female farmers closer to Njala are likely to have greater access to these services.

As already discussed, NUC and ACRE both played direct roles in the provision of certain agricultural services in the region. Adopting the trickle-down approach, NUC relied on "programme participants" and ACRE used "contact farmers" to disseminate new innovations/techniques. CTC is basically a training place for extension workers/agricultural instructors employed by MAF. Unlike the other two institutions, it has no formal/mandatory extension duties. Students are, however, required to

work with farmers close by during their training. One important requirement for the effectiveness of the programmes undertaken by each of these institutions is contact with "selected" farmers. With increased communication, transportation, and fuel problems in the country over the years, the frequency of contact is likely to have decreased especially with distance. This implies that female farmers closer to Njala are likely to have the most contacts with extension workers.

The selection of villages for this study was determined by two factors - distance to Njala and village population size. The process involved two stages. First, the study area was divided into three zones based on distance from Njala. The distance is demarcated by the twenty-five mile radius the university was mandated to serve. An eight-mile interval was chosen because most of the largest villages in the study area are located less than eight miles from Njala.This divided the area into three zones:

Zone 1 - villages located less than 8 miles from Njala.

Zone 2 - villages located between 8 and 16 miles from Njala.

Zone 3 - villages located between 17 and 25 miles from Njala.

The selection of villages within zones was determined by their population sizes according to the most recent available national census report (1985). The village with the highest population size in each zone was selected, making a total of three sample villages. Population size was the determining factor here because the researcher believed that women's accessibility to agricultural services in the region was generally very low. As a result, the study of larger settlements are likely to exhibit more variability and therefore bring out the constraining factors concerning accessibility to these services more distinctly than would smaller settlements. Furthermore, extension workers are known to generally favour larger settlements over smaller ones. If this is true in this region, then these settlements are likely to show greater variability in access to these services than would smaller ones.

3.3.2 Respondents Sample

Data from developing countries are generally known to be lacking in many aspects. They could be inadequate, unreliable, or full of inaccuracies and biases. A good many times they are entirely unavailable. Such inadequacies present many problems in the sample selection process, among which was the ready availability of a comprehensive sample frame for this study. To overcome some of these difficulties, various data sources had to be incorporated into this study. The national census report was the main source of the data. It provided the general population figures and household list of the selected

villages. Not only was this 1985 report inadequate, it also needed to be updated as four years had elapsed since it was compiled. Village official records provided the up-to-date information as they are usually compiled annually. While they are useful as supplementary sources, their greatest handicap is that they rely heavily on village head tax records. Such taxes are paid only by men and it is therefore not uncommon for female-headed households to be omitted from such records. With the assistance of authorities and other key informants in the village, the list was further checked for any omissions and inaccuracies.

The selection of households and therefore respondents was a two-stage process. The first stage was the compilation of all households in each selected village. The second stage involved categorizing the compiled household list into farm and non-farm households. A preliminary interview was needed to achieve this, as this distinction was not made in the original data (the national census report). At the same time, the head of each farm household was also determined. The head is defined as the person responsible for deciding all matters of importance concerning the family or household (where there is more than one family unit). In a female-headed household, the woman may have never been married. She may be widowed/divorced/separated, or may still be married but the husband is away either temporarily or permanently. She may also have a man living with her but the relationship is not legally recognized as marriage. No step was taken to stratify these two household types for proportionate selection. The overall households were selected by the simple random method.

Two reasons motivated the choice of simple random selection over other methods. First and foremost, the sample frame is not large, the highest number of households of the selected villages being 627 (Taiama). As determined by its population size and out of a maximum sample size of 200, 129 households were selected from Taiama. Similarly, from Senehun and Njama whose total number of households were 122 and 227 respectively, 25 and 45 households were selected (see Table III.1). Second, the selection process itself, based on chance, was a way of enlisting the cooperation of the people particularly the women. Having gone through the legitimization process which, according to the power structure consists mainly of males, the women's participation in the "draw" was a way of involving them, making them become part of the study, and possibly creating some amount of commitment. Such a feeling has a potential of increasing response rate, and the quality of answers given.

TABLE III.1

SAMPLE VILLAGES AND HOUSEHOLDS IN THE STUDY, 1990

VILLAGE ZONE	TOTAL NO. OF HHs	NO. OF SAMPLE HHs
ZONE I (<8 Miles)	637	129
ZONE II (8-16 Miles)	122	26
ZONE III (17-25 Miles)	227	45
TOTAL	986	200

There was only one respondent per household. For the purpose of this study, household means those dwelling under the same roof or set of roofs in a compound and composing a family. The family could be nuclear or polygamous and may include other extended members. In a male-headed nuclear family household the wife was interviewed. In polygamous households only the most senior wife was interviewed.

3.4 Data Collection

3.4.1 Rationale for Face-to-Face Interview Schedule

Several factors need to be taken into consideration in choosing a data collection mode. Fowler (1988:61) emphasized that that choice "is related directly to the sample frame, research topic, characteristics of the sample, and available staff and facilities ...". Without downplaying the importance of the other factors, the overriding factor for this study is the characteristics of the sample and its environment. At least 80 percent of the population in the study area can neither read nor write which ruled out the use of a self-administered questionnaire. Also, with the absence of telephones or other means of communication, neither telephone nor mail surveys were appropriate. No other alternatives except a face-to-face interview schedule were plausible.

Aside from the limitations created by the sample and its situation, face-to-face interviews hold several advantages for this study. It gives interviewers the opportunity to explain the general purpose of the study to each respondent. This can enhance the cooperation of the respondents, and possibly arouse their interest in the study. The actual questions were written in English as the indigenous languages are

largely unwritten. These had to be translated by the interviewers (who are fluent in both English and the indigenous languages) during the interviewing process. This allowed respondents to get immediate feedback for the clarification of questions and specific meanings of certain concepts and terms to avoid misunderstanding. Finally with a bulk of the questions open-ended, interviewers could also probe when responses were incomplete or not directly focused. On the whole, this method has great potential of increasing response rate and the quality of answers given.

3.4.2 Design of the Interview Schedule

According to Fowler (1988), the three important ingredients of a well designed questionnaire (interview schedule) include selecting the questions, formatting the questions, and testing the questions. It is within this framework that the interview schedule was designed.

3.4.3 Selection of Questions:

Two main factors that were considered in making this choice are the type of study undertaken and the data collection method employed. This study is largely exploratory and descriptive in nature. To achieve this depends greatly on the knowledge, opinions/assesment, and suggestions of respondents. These are factors that cannot easily be anticipated by others in the provision of an exhaustive range of responses as is required for closed-ended questions. Therefore, mainly open-ended questions were used, especially to determine both constraints and their alleviation. The questions probed the problems of getting and/or asking for these services. The factors responsible for these problems were also extensively explored, together with what should be done to alleviate them. In addition, the role of certain key people/officials in alleviating these constraints was sought.

Structured questions were also incorporated into the interview schedule. These included dichotomous questions where positive or negative answers were required, as well as a few rating scales for respondents to make distinctions in degree about certain items. Where questions were relevant to only a segment of respondents, contingency questions were incorporated as a way of speeding up response and interviewing time.

3.4.4 Formatting the Questions:

The goal here was to make the tasks of the interviewer and respondents as easy as possible. A first step in achieving this is good ordering of the questions. Starting with relatively easy, straightforward questions helps to "get the respondent into the survey" (Fowler, 1988:102). Based on this, the questions

were divided into four sections. The first requested information about certain socio-economic characteristics of respondents and their husbands. Because these sought personal information of respondents, a great deal of thinking was not required.

Sections two, three, and four focused on the selected agricultural services, i.e; advice/information, training, and farm loan respectively. Questions in each section followed a systematic order, starting with the accessibility of each service, followed by the constraints in getting the service, and lastly how these constraints could be removed. Ordering the questions in this manner enhanced a good flow, particularly when some answers were needed to determine if other questions applied to the respondents.

3.4.5 Testing the Questions:

This phase, commonly known as pretesting, provides an opportunity to discover flaws related to the questions. It involves making sure that the questions can be answered as planned. Flaws in questions could pertain to a range of things - the content, wording and mechanics of a question, or the ease of understanding.

To achieve best results for this exercise, Fowler (1988:104) suggests that "the pretest sample should include the range of education and life situation that one would expect to find in the final sample". Both financial and time constraints did not permit this for the study. Persons chosen for the pretest had far higher education than the final sample, but they shared a similar life situation in that they were African women (presently residing in Edmonton) with rural farming backgrounds. It is assumed that this common background makes them familiar with the investigation undertaken.

Taking these limitations into consideration, the purpose of the exercise was to identify ambiguities and other questions of uncertainties and also to determine problem questions. The result of the exercise necessitated certain changes. The major flaw was that questions were discovered to be repetitive as overlapping answers were given by the pretest group. These were removed thereby reducing the length of the questionnaire. Other changes were more mechanic, requiring the re-wording of certain questions and some sections of the interviewers instructions to help respondents focus their answers more specifically.

3.4.6 Interview Schedule Items

The actual questions comprised four sections. The first concerned the independent variables of the study. It is assumed that differences in women's access to the related agricultural services depend on

differences in three sets of factors. These are the household type the respondents live in, their socio-economic characteristics and those of their husbands (for those married), and the village zone in which the women reside. The selected socio-economic characteristics include age, education, occupation, and number of household dependants. Information on income was collected only on respondents. This is because aside from the difficulties in determining income in a largely non-literate setting like rural Sierra Leone, men do not generally disclose their "income" to their wives. Respondents' income was assessed from various sources. These were proceeds from their last season's farm activities (both crop and animal farming), and any other economic activity the women may have been involved in such as petty trading, fishing, and craft work.

Village zone, as already discussed, was based on distance to Njala as the main source of agricultural services in this region. Due to factors already mentioned, accessibility to these services may be a function of distance.

Sections two, three, and four are concerned with the selected agricultural services - extension in the form of advice/information and training, and farm loan. Questions in each section explored three main factors - the accessibility of the service, the constraints in accessing the service, and how these constraints can be alleviated. Accessibility was operationalized as what is seen/present or capable of being used. Specific questions asked to measure this focused on knowledge about the particular service, how much of the service is presently available/given to the women, and how much of it is requested by the women themselves as well as the sources of the service provided.

Questions that determined constraints probed problems of getting and/or requesting the service. The reasons behind the constraints were explored, including what might be done to alleviate them.

3.4.7 Data Collection

Interviewers play a major role in the collection of survey data. With training, they can facilitate a good rapport with respondents, and enhance methods of asking questions, probing, and recoding of answers. In addition, two other factors necessitated the training. First, the interviewers' manual that accompanied the interview schedule had to be studied and discussed. This included specifications, especially pertaining to the open-ended questions in the interview schedule. Clarifying these was important to increase the response rate and the quality of answers that particularly required the opinions and suggestions of respondents. Second, interviewers had an added responsibility of asking the questions

written in English in the language respondents understood and spoke best. To do this accurately demanded familiarity with each question and a general agreement on a standard translated version that caused little or no change to the original meaning of the questions.

The Department of Agricultural Economics and Extension (NUC) provided a resource person for the training of field assistants. Four students, all in the Department and who came from the region under study, were employed. Training lasted for four days, including a day of practical experience in a nearby village (not included in the sample).

3.4.8 Problems of Data Collection

The major problem faced was getting co-operation at the household level. Traditionally, legitimization of the study with the village power structure enhanced this, at both village and household levels. A letter from NUC (Department of Agricultural Economics and Extension), known to have been involved in farming and its problems in the region over the years easily ensured the support of the power structures in the three sample villages. The purpose of the study was discussed, together with the data collection method. A date was agreed upon for a meeting with the larger population where the study was discussed again and the "draw" (household selection) held. Although several announcements were made by the village "town crier", the attendance was poor and mainly men. This did not stop the discussion or the "draw", but the objective of involving women, in particular prior to the interview, was not achieved. Male household heads who were not present at the meeting had to be talked to first in soliciting permission to interview their wives. This was not always easy and so increased the overall interviewing time.

Respondents in zone I showed the least enthusiasm about the study. Being closest to NUC, the people had been extensively involved in other surveys. They complained that they expected at least some of their identified problems to have been addressed but instead their situation had worsened over the years. It took a lot of talking, with the traditional greetings of giving "kolanuts" (a form of tip) to gain their co-operation.

A good number of male household heads were concerned that only women were to be interviewed about issues they regarded to be "their domain". For them, this was in direct opposition to most other surveys where they had either been directly interviewed, or had acted as the "mouthpiece" of their wives.

This problem was overcome by explaining that since women's farming tasks were different from men's, the women needed to be heard this time to get an overview of extension-related farming problems as a whole.

3.5 Data Processing

Almost all of the questions, especially those aimed at eliciting respondents' opinions and suggestions were open-ended. Since such responses could be as diverse as the number of respondents in the survey, categorization was a time-consuming process. With a review of each of these questions for each schedule, responses were grouped into categories depending on the objectives established for the particular data. A classification was thus established that was converted into numerical codes for the required data. The numerical codes of each question were aligned on the right hand side of each schedule to enhance computer transfer of the data.

3.6 Data Analysis

Three levels of analysis were carried out using the "SPSSX" statistical package as an analytical tool. At the first stage, descriptive techniques were employed to examine frequency counts, percentages, and means of the descriptive data. The second stage of the analysis employed Chi-square procedures to examine relationships between the dependent variables of the study and certain independent variables. The last step focused on testing the hypotheses. Using regression analysis, the degree of relationships amongst the variables was tested at the significance level of 0.05.

3.7 Reliability And Validity Issues

Babbie (1986:112) suggests several ways one can create reliable measures in data collection. To achieve this, every effort was made to ask respondents questions on matters about which they were largely knowledgeable and that were relevant to them. This notwithstanding, a category of "Don't Know" responses were added for certain items to minimize invalid responses. This was necessary because the pretesting group was different from the actual population in several ways. For instance, they had a far higher level of education (see chapter 2). Several steps were also taken to ensure that interviewers had a good rapport with the respondents. While their initial contact with the power structure legitimized the study, the sampling "draw" also helped to get the support of the community members. Furthermore, the interviewers were very familiar with the social and cultural norms of the region, having been raised there themselves, so that relating to respondents was not difficult.

The literature and research undertaken in this area were invaluable tools for establishing construct validity in particular. The interview schedules were also assessed by experts to determine if the questions solicited the required responses to provide the desired information.

CHAPTER IV

DATA ANALYSIS I

4.1 Socio-Economic Characteristics of Respondents

Agriculture is the main economic activity of rural communities in Sierra Leone, and the farm family is the economic unit. Understanding the socio-economic characteristics of women and their husbands (for those who are married) in the sample is essential in determining the access of agricultural services to women in the region. Tables I and II provide a summary of the socio-economic characteristics of women and men respectively.

Household Heads: Household head status is an indicator of decision-making power and responsibility in most of Africa. Traditionally, males are heads of households in Sierra Leone and usually assume patriarchy positions. This is even more evident in rural areas where males make the major decisions about farming activities and provide the required leadership in the family, among other things. Nearly 87% of the households in the sample were headed by males. This figure is slightly above the overall proportion of male-headed rural households in the country which is estimated at 80% (Byerlee, Tommy and Fatoo, 1976). But as can be seen from the data, the proportion of male headed households increases as one moves away from zone 1. Both zones 2 and 3 have nearly twice as many female-headed households as zone 1. This is probably so because the latter is closest to Njala where the university and other institutions provide higher employment opportunities resulting in the least male out-migration. In fact, the 1985 national census report show zone 1 (Kori Chiefdom) as one of the very few rural areas in the country where the male population exceeds that of females.

Age: In regions where traditional agriculture is practiced, knowledge about age structure is essential for two main reasons. First, it determines the availability of labour supply especially where rudimentary tools are used and incomes are generally too low to hire labour. In such a situation, age becomes an important factor in agricultural production. Age also determines the decision-making process and in extension, this affects the acceptance of new ideas/innovations. It

is, however, important to note that while labour capabilities reduce with age, decision-making powers tend to spread into older age brackets in areas where tradition and illiteracy prevail, as it is in the studied area.

TABLE IV.1

SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS

	ZONE I Freq. %	ZONE II Freq. %	ZONE III Freq. %	TOTAL Freq. %
HH HEAD				
Male Headed	116 89.9	21 80.8	36 80.0	173 86.5
Female Headed	13 10.1	5 19.2	9 20.0	27 13.5
AGE				
Below 20	3 2.3	-- ----	-- ----	3 1.5
20 - 29	39 30.2	4 15.4	4 8.9	47 23.5
30 - 39	43 33.3	10 38.5	14 31.1	67 33.5
40 - 49	26 20.2	8 30.8	19 42.2	53 26.5
50 - 59	11 8.5	4 15.4	8 17.8	23 11.5
60 - 69	4 3.1	-- ----	-- ----	4 2.0
70 - 79	3 2.3	-- ----	-- ----	3 1.5
LEVEL OF EDUCATION				
None	91 70.5	21 80.8	36 80.0	148 74.0
Primary	24 18.6	3 11.5	8 17.8	35 17.5
Secondary	14 10.9	2 7.7	1 2.2	17 8.5
SEC. OCCUPATION				
None	36 27.9	19 73.1	34 75.6	89 44.5
Traditional	33 25.6	-- ----	-- ----	33 16.5
Trader	36 27.9	7 26.9	11 24.4	54 27.0
Salaried	24 18.6	-- ----	-- ----	24 12.0
RESPONSIBILITY				
1 - 5	33 26.0	3 11.5	10 22.2	46 23.2
6 - 10	74 58.3	23 88.5	34 75.6	131 66.2
11 - 15	20 15.7	-- ----	1 2.2	21 10.6
INCOME (Le.)				
Below 10,000	40 80.0	-- ----	-- ----	40 74.1
10,000 - 19,000	8 16.0	-- ----	-- ----	8 14.8
20,000 - 29,000	-- ----	1 100.0	2 66.7	3 5.6
30,000 - 39,000	-- ----	-- ----	1 33.3	1 1.9
40,000 - 49,000	1 2.0	-- ----	-- ----	1 1.9
50,000 - 59,000	1 2.0	-- ----	-- ----	1 1.9

The average age of women in the sample was 38 years, with nearly 34% of the women falling in the 30-39 age group. When age groups are divided into active producer (18-60) and dependent (above 60) groups, it is clear that over 96% of the women under consideration belong to the former.

Based on this division, the figures in all three zones do not show many differences. In zone 3, however, the age distribution is slightly more skewed to the higher age groups, probably a result of higher migration among the younger women in this zone.

Education: The national adult literacy rates of 31% and 17% respectively for males and females in Sierra Leone as reflected in the 1980 estimates are extremely low. In rural areas these rates are expected to be even lower and the gap between males and females wider still. Although several reports emphasize that formal education affects agricultural production positively, farmers in this region hold a contrary view. Formal education in its present form in the country is considered to alienate people, (particularly the young) from farming and it is believed that labour for agricultural production is lost to it. Other factors which mitigate against women is that formal education promotes loss of traditional values, low morals, and leads to loss to the entire village when the women migrate to towns to get married. These factors probably explain why three fourths of the women do not have any formal education. Tommy's study (1980) in the same district showed a similar result where 81% of the women farmers were reported to be absolutely illiterate. The highest level attained by the women in the sample is secondary education, which accounts for an alarmingly low rate of only about 8%. On a comparative basis, zone 1 has a slightly higher level of education than the other two zones. This last factor is also attributable to the former's proximity to the university and schools in Njala which make it possible for the community to take advantage of some of the educational facilities provided there.

Secondary Occupation: Rural women provide the largest source of family work force in agricultural production even though their on-farm wage levels are very low. A large proportion of the produce of most women goes into home consumption. As a result women are forced to engage in other income-generating activities to make ends meet. Like other studies (Tommy, 1980; Spencer, 1976), over half of the women have a secondary occupation which very often involves trading in small items and is commonly termed as "business." But while the women in zone 1 are engaged in a variety of income-generating activities, those in zones 2 and 3 reported involvement in trading alone. Not surprisingly, salaried jobs that require some level of education are taken up only by respondents in zone 1 where the educational standards are higher and salaried jobs are available.

Figures on traditional occupations such as fishing, weaving and pottery are low. This is probably due to the difficulty in keeping accurate records of incomes earned from such activities and also partly as a result of their seasonal nature.

Responsibility: This is defined as the number of people living with the respondents which she supports, i.e. feeds, clothes, educates and provides medical care for. Although husbands are obligated to support the family, in practice women share a lot of the responsibility. This is particularly so in polygamous families which happen to be the predominant family type in this region (60%). It is important to make this distinction because the normal family size may include other members not supported by the woman in question. These may include other wives of the same man to which a particular woman is married as well as their children and relatives. In this sample 99% of the women are reported to be responsible for people in their households. Over three fourths of them support a maximum of 10 people, while the remaining support a maximum of 15 people. A similar pattern is seen in both zones 1 and 3. However, in zone 2, about 11% of the women support 5 or less people. There are two sides to supporting a large number of people. On the one hand, it can be an advantage in terms of labour supply for farming if those supported fall into the productive age group. On the other hand, if such family members are not fit to be used as farm hands this can be a great drain on the woman's already poor economic state.

Income: Farmers in Sierra Leone generally have low income earnings, and those of females farmers are known to be even lower. As seen from the data, only a very small percentage of women have jobs that give them regular salaries from which incomes can be determined. Income here is a product of annual earnings from the sale of crops and animals and proceeds from other income-generating activities in which women were involved. In this sample only one quarter of the women reported having earned any income in the previous year and this income was largely below Le10,000[1]. On average, incomes in zone 1 are higher than those of the other two zones. It is only here that the incomes of about 4% of the women exceeded Le40,000. This trend represents the general picture of the economic state of women farmers in the country. For example, a survey carried

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1 US$1=Le120.00 (January 1990)

out by Tommy (1978) among 186 farmers in the same district showed that for all farm tasks performed, male farmers earned nearly three times more than female farmers. As has been stated already this makes it imperative for women to take on extra duties if they are to improve their lot.

4.2 Socio-Economic Characteristics Of Respondents' Husbands

Age: Decision-making is a major responsibility of a household head. In rural Africa where a lot of respect is attached to age, it is believed that the older one is, the better the decisions one makes. Owing to this logic, males, who traditionally are "expected" to be household heads are encouraged to marry at an older age than women. This probably explains a ten year difference in the average age between men and their respondent wives in this sample. Like the women, the age distribution of the men in zones 2 and 3 is more skewed to the older age groups probably for the same reason. The general proportion of men who belong to the productive age group is 72% as opposed to 96% for women. This is probably because the rate of rural outmigration (which is more prevalent among the productive age group) is generally higher for men.

Education: As reflected in the national figures (1980) men have a higher literacy rate than women. Less than half of the men have no formal education at all as opposed to about three fourths of the women. Also, it is interesting to remark that at least 10% of the men have post-secondary education, a feature which is non-existent among the women in the sample. But like the women, the level of education for the men is highest in zone 1 for apparently the same reasons.

Main Occupation: More than half of the men are farmers. With a much higher level of education, the proportion of men with jobs (33%) that gave them regular incomes is also strikingly higher than that of women. Commensurate with the higher level of education in zone 1, as shown in the data, the proportion of salaried workers (33%) is greatest here too. Conversely, zone 1 has the lowest proportion (49%) of farmers. This seems to support the idea that in rural areas of developing countries formal education seems to have adverse effects on the number of people involved in farming or willing to engage in farming as a profession. Other professions are seen as more lucrative and education is usually an outlet to them.

Number of Wives: Polygamy is widely practised in much of rural Sierra Leone. One reason for this is that the labour contribution of women, their children and dependents to agricultural production is an economic asset for men because of the heavy dependance on human labour. Such a family system rids the man of employing much wage labour. Another reason is that the muslim

TABLE IV.2

SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS' HUSBANDS

	ZONE I Freq. %	ZONE II Freq. %	ZONE III Freq. %	TOTAL Freq. %
AGE				
20 - 29	4 3.4	-- ----	-- ----	4 2.3
30 - 39	24 20.7	1 4.8	3 8.3	28 16.2
40 - 49	38 32.8	7 33.3	9 25.0	54 31.2
50 - 59	23 19.8	12 57.1	14 38.9	49 28.3
60 - 69	19 16.4	1 4.8	10 27.8	30 17.3
70 - 79	8 6.9	-- ----	-- ----	8 4.6
LEVEL OF EDUCATION				
None	48 41.4	10 47.6	22 61.1	80 46.2
Primary	25 21.6	2 9.5	5 13.9	32 18.5
Secondary	28 24.1	6 28.6	9 25.0	43 24.9
Non-university	10 8.6	1 4.8	-- ----	11 6.4
University	5 4.3	2 9.5	-- ----	7 4.0
MAIN OCCUPATION				
Farmer	57 49.1	16 76.2	24 66.7	97 56.1
Traditional	1 .9	2 9.5	1 2.8	4 2.3
Trader	13 11.2	-- ----	2 5.6	15 8.7
Salaried	45 38.8	3 14.3	9 25.0	57 32.9
NUMBER OF WIVES				
1	51 44.0	11 52.4	8 22.2	70 40.5
2 - 4	61 52.6	10 47.6	27 75.0	98 56.6
5 - 8	4 3.4	-- ----	1 2.8	5 2.9
RESPONSIBILITY				
1 - 5	17 14.8	2 9.5	13 36.1	32 18.6
6 - 10	86 74.8	13 61.9	13 36.1	112 65.1
11 - 15	10 8.7	4 19.0	9 27.8	23 13.4
16 - 20	1 .9	2 9.5	-- ----	3 1.7
21 - 25	1 .9	-- ----	-- ----	1 .6
26 - 38	-- ----	-- ----	-- ----	1 .6

religion (the religion practiced by a large number of rural people in this region) allows for more than one wife. In the sample under consideration, about 40% of the men have only one wife. In the polygamous homes, more than half of the men have at least two wives, while 3% have at least 5 wives. Only zone 3 showed a striking difference in this pattern from the other two zones. It has the least proportion of men with only one wife (22%) and also shows that three fourths of men have

at least two wives. This may be attributed to the fact that this zone has the highest illiteracy rate and the highest proportion of older age groups. Both factors are known to positively affect the upholding of traditional values.

Responsibility: In traditional African homes, all members of a household are expected to be under the "care" of the household head. The most senior wife (in polygamous homes) is expected to be the unifying force in the household. It is not therefore uncommon for her to report the same number of people she supports as does the husband. This probably explains the small difference in the average number of people the women and men support in this sample. On the zonal level the big difference is that while only 10% of the men in zone 1 support more than 10 people (above the sample average), in the other two zones at least 27% of the men support this number of people. With the highest level of education, highest proportion of salaried jobs, and lowest proportion of farmers in zone 1, there is less need to care for more people only to provide farm labour.

4.3 Availability Of Agricultural Services For The Women

Three broad areas are considered in looking at the availability of agricultural services for women in this study. The first is the awareness level of respondents (knowledge) about services available to farmers in general and female farmers in particular. The second is to determine whether participants have ever received these services, while the third focuses on how much of it they did get in the last season, if any. Tables III, IV and V demonstrate the extent to which these services are available for female farmers.

Advice/Information: The general goal of agricultural extension, as pointed out by Swanson and Claar (1984), is to give useful information to farmers (communication dimension) then helping them to learn how to use the information (training dimension). In this study, the communication dimension focuses on the availability of extension advice generally on farming and information about other services. The women were asked if they had ever heard that extension workers provided such services for a) farmers generally and b) female farmers as a group. The results show a big disparity. While nearly three fourths of the respondents know that these services are provided for farmers generally, only 42% of them are aware that the same services are also provided for female farmers as a group. Zone 1 is the only region which shows a very narrow disparity about knowledge of services provided for farmers in general and for female farmers. This may be attributed to the

higher level of education in this zone due to its proximity to the university. Asked if they had ever received any extension advice/information an alarming 87% responded in the negative. In zone 3 almost 98% of respondents have never received extension advice/information.

On the general plane it is clear that among the women who had received extension advice/information, majority reported to have had it recently. However, only two sources responsible for the provision of these services are named - A.C.R.E. and the Ministry of Agriculture.

TABLE IV.3

AVAILABILITY OF EXTENSION ADVICE/INFORMATION FOR WOMEN FARMERS (1990)

	ZONE I Freq. %	ZONE II Freq. %	ZONE III Freq. %	TOTAL Freq. %
KNOW. - ADV./INFO FOR FARMERS				
No	38 29.5	7 26.9	11 24.4	56 28.0
Yes	91 70.5	19 73.1	34 75.6	144 72.0
KNOW. - ADV./INFO FOR FEMALE FARMERS				
No	63 48.8	17 65.4	35 77.8	115 57.5
Yes	66 51.2	9 34.6	10 22.2	85 42.5
RECEIVED ADV./INFO. (N=26)				
No	109 84.5	21 80.8	44 97.8	174 87.0
Yes	20 15.5	5 19.2	1 2.2	26 13.0
RECEIVED RECENT ADV./INFO. (N=20)				
No	6 31.6	-- -----	-- -----	6 24.0
Yes	14 68.4	5 100.0	1 100.0	20 78.0
SOURCE OF RECENT ADV./INFO.				
A.C.R.E.	6 42.9	2 40.0	1 100.0	9 45.0
Min. of Agriculture	8 57.1	3 60.0	-- -----	11 55.0
FREQUENCY OF RECENT ADV./INFO.				
1 - 2	11 78.6	4 80.0	-- -----	15 75.0
3 - 4	3 21.4	1 20.0	1 100.0	5 25.0

Extension Training: In this study, this involves lecturing about and demonstrating farming techniques in the villages, on the farms or at training centres. The data shows that both knowledge about the provision of extension training and its availability to the women is lower than in the case of advice and information. Although 68% of respondents know that farmers can obtain extension training, only about half that number know that it is available to female farmers as well. Asked if they had ever received extension training, an insignificant 3% i.e., 7 out of 200 respondents reported

having ever obtained it. Training usually requires time and financial commitment. It may require time off usual duties and most rural women are already overworked. It may also require the permission of husbands/male figures and this is not easily granted if extension workers are males. Travelling to training centres may also be necessary but limited time, very low incomes, and traditional restrictions on women make this almost impossible. Also, the most common type of extension training provided requires the purchase of some new variety, tools, etc. Most rural women cannot afford these and there is therefore little motivation for them to attend. These, among other factors, probably explain the insignificant proportion of women that have ever had extension training and why only 4 of the 7 women familiar with extension training obtained it recently. The Ministry of Agriculture is reported to be the sole provider of this training. Two of the women had training not more than twice while the other two received training three or four times.

Farm Loans: The importance of this for the increase of food production in Africa has been noted by many researchers (Chepkonga, 1985; Segun, 1980; Osuntogun, 1973). They all agree that the provision of farm loans increases the adoption of modern inputs. Conversely, lack of it is a constrain on agricultural output. No matter how knowledgeable or well motivated most farmers in sub-Saharan Africa are, they cannot adopt modern inputs without loans. This section largely concerns the availability of information on government cash loans or loans in the form of farm inputs for farmers. As in the case of extension training, the proportion of women who reported knowing about the availability of loans for female farmers is about half the number of those with knowledge of loans for farmers in general. Aside from this wide disparity, nearly all of the respondents reported never having applied for farm loans. The 3 out of 200 who did reported to have applied again recently to two sources, namely: Credit and Thrift Society and I.D.A.(Integrated Development for Agriculture). However only two of them did acquire the loan both from Credit and Thrift Societies. No respondent in zones 2 and 3 reported to have applied for farm loan.

TABLE IV.4

AVAILABILITY OF EXTENSION TRAINING FOR WOMEN FARMERS (1990)

	ZONE I Freq. %	ZONE II Freq. %	ZONE III Freq. %	TOTAL Freq. %
KNOWLEDGE - TRAINING FOR FARMERS				
No	40 31.0	10 38.5	14 31.1	64 32.0
Yes	89 69.0	16 61.5	31 68.9	136 68.0
KNOWLEDGE - TRAINING FOR FEMALE FARMERS				
No	69 53.5	21 80.8	39 86.7	129 64.5
Yes	60 46.5	5 19.2	6 13.3	71 35.5
RCVD. TRAINING (N=7)				
No	126 97.7	23 88.5	44 97.8	193 96.5
Yes	3 2.3	3 11.5	1 2.2	7 3.5
RCVD. RECENT TRAINING (N=4)				
No	1 33.3	1 33.3	1 100.0	3 42.9
Yes	2 66.7	2 66.7	-- -----	4 57.1
SOURCE OF RECENT TRAINING (N=4)				
Min. of Agriculture	2 100.0	2 100.0	-- -----	4 100.0
FREQUENCY OF RECENT TRAINING (N=4)				
1 - 2	1 50.0	1 50.0	-- -----	2 50.0
3 - 4	1 50.0	1 50.0	-- -----	2 50.0

TABLE IV.5

AVAILABILITY OF FARM LOAN FOR WOMEN FARMERS (1990)

	ZONE I Freq. %	ZONE II Freq. %	ZONE III Freq. %	TOTAL Freq. %
KNOWLEDGE - FARM LOAN FOR FARMERS				
No	47 36.4	8 30.8	15 33.3	70 35.0
Yes	82 63.6	18 69.2	30 66.7	130 65.0
KNOWLEDGE - FARM LOAN FOR FEMALE FARMERS				
No	75 58.1	23 88.5	35 77.8	133 66.5
Yes	54 41.9	3 11.5	10 22.2	67 33.5
APPLIED FOR FARM LOAN (N=3)				
No	126 97.7	26 100.0	45 100.0	197 98.5
Yes	3 2.3	-- -----	-- -----	3 1.5
APPLIED RECENTLY FOR FARM LOAN (N=3)				
No	-- ----	-- -----	-- -----	-- -----
Yes	3 100.0	-- -----	-- -----	3 100.0
SOURCE OF RECENT FARM LOAN (N=3)				
Credit and Thrift	2 66.7	-- -----	-- -----	2 66.7
I.D.A.	1 33.3	-- -----	-- -----	1 33.3
RECEIVED FARM LOAN RECENTLY (N=2)				
No	1 33.3	-- -----	-- -----	1 33.3
Yes	2 66.7	-- -----	-- -----	2 66.7

4.4 Test Of Hypotheses

Statistical tests allow researchers to validate hypotheses as one is able to compare results expected according to the hypothesis with what is actually observed in the data. Such a process invariably requires a statistical shift to secondary analyses. The first of these involves Chi-square tests, where the relationships between the dependent (extension advice/information, training and farm loans) and independent variables of the study are tested.

The focus for extension advice/information and training is how many women farmers have ever had/received these services. That of farm loans is based on how many women farmers have ever applied for farm loans. Information on the number of women farmers that have received farm loans is not used because only three women in the sample have ever had loans. For a test like Chi-square, having a small number of expected frequencies can create a great number of empty cells which can stop statistical computations altogether, or lead to misleading results. On the whole, this problem of many empty cells looms over the entire Chi-square analysis because the number of women farmers who have received these services in the sample is extremely low. As a precautionary measure all the independent variables used in the analyses are converted into categorical variables at a second stage to produce two by two column tables for a second set of tests to be compared with the first. One advantage of such tables (2 by 2) is that SPSSX automatically performs Fisher's Exact Test when the number of cases in the table is less than 30.

A second level of analysis is undertaken to test for higher levels of relationships between the dependent variables and certain independent variables. While Chi-square can show that two variables are related, it provides little information about the strength and type of association between the two variables. Regression analysis is therefore employed to detect these. Except for education, all selected independent variables were measured at an interval scale. Education, originally measured at the ordinary scale, is transformed into a dummy variable of illiterate (none and primary school level) and literate (secondary to university level) for this purpose.

4.4.1 Chi-Square Test of Independence

Tables IV.6 and IV.7 present the Chi-square values of the dependent variables and independent variable related to the hypotheses. Results in Table IV.6 are products of the dependent variables tested

against the independent variables as originally measured. Those in Table IV.7 are products of the dependent variables tested against the transformed independent variables to produce two by two column tables.

Household Head: The literature increasingly documents the disparity between women in male-headed households and their counterparts in female-headed households in obtaining agricultural services (Smith and Stevens, 1988; Due and White, 1986; Spring and Hansen, 1985; Fortmann, 1984; Lucas, 1979; Staudt, 1975/76). All these studies emphasize that although all female farmers face enormous problems in acquiring agricultural services, women farmers who are heads of their households encounter even more difficulties. Based on this conclusion, the first hypothesis predicted that women's access to agricultural services is related to male-presence. That is, women in male-headed households have better access to these services than those women who are heads of their households. The results in this study do not seem to support this hypothesis. The Chi-square values show no dependence between household heads and any of the three services at the 0.05 level. This may be a result of the sampling procedure.

While respondents were chosen randomly and proportionately according to village size, no measures were taken to select household types on these bases. Also, women who are divorced/separated are culturally frowned upon particularly in rural settings. It is not uncommon, therefore, for such women to claim being married when they are not. This is likely to have inflated the married figures and therefore figures for male-headed households.

The second hypothesis predicted that women's access to these services vary with a) their age, education, type of secondary occupation, income and responsibility, b) their husband's age, education, primary and secondary occupations, the number of wives they have and responsibility.

TABLE IV.6

RELATIONSHIPS BETWEEN THE DEPENDENT VARIABLES AND SELECTED INDEPENDENT VARIABLES (LARGER TABLES)

	RCVD. EXT. ADV./INFO		RCVD. EXT. TRAINING		APPLIED FARM LOAN	
ITEM	Chi-sq	Sig.	Chi-sq	Sig.	Chi-sq	Sig.
HHHead	0.863	0.35	1.132	0.28	0.475	0.49
Rsps'. Age	12.252	0.05*	12.483	0.05*	2.272	0.89
Rsps'. Educ.	26.226	0.00**	8.126	0.01**	1.070	0.58
Rsps'.Sec.Occ.	2.492	0.47	5.440	0.14	4.787	0.18
Rsps'.Income	17.043	0.00**	54.000	0.00**	0.357	0.99
Rsps'.Resp'ty.	1.507	0.47	3.741	0.15	2.113	0.34
Hubs'. Age	3.682	0.59	5.001	0.41	3.250	0.66
Hubs'. Educ.	14.506	0.00**	17.811	0.00**	0.879	0.92
Hubs'.Main Occ.	1.393	0.70	2.716	0.43	2.494	0.47
Hubs'.Sec.Occ.	20.385	0.00**	2.344	0.50	8.636	0.03*
Hubs'.No.Wives	2.674	0.26	0.221	0.89	0.899	0.63
Hubs'.Resp'ty.	2.603	0.76	12.579	0.02*	0.854	0.97
Village Zone	6.229	0.04*	5.718	0.05*	1.676	0.43

**Sig. at 0.01
*Sig. at 0.05

TABLE IV.7

RELATIONSHIPS BETWEEN THE DEPENDENT VARIABLES AND SELECTED INDEPENDENT VARIABLES (2 BY 2 TABLES)

	RCVD.EXT. ADV./INFO.		RCVD.EXT. TRAINING		APPLIED FARM LOAN	
ITEM	Chi-sq	Sig.	Chi-sq	Sig.	Chi-sq	Sig.
HHHead	0.863	0.35	1.132	0.28	1.676	0.43
Rsps'. Age	0.011	0.91	2.498	0.11	0.110	0.73
Rsps'. Educ.	26.206	0.00**	3.757	0.05*	0.283	0.59
Rsps'.Sec.Occ.	2.441	0.29	2.741	0.25	4.764	0.09
Rsps'. Income	9.926	0.00**	53.999	0.00**	0.059	0.80
Rsps'. Resp'ty	0.249	0.61	4.427	0.03*	1.072	0.30
Hubs'. Age	0.021	0.88	0.251	0.61	0.230	0.63
Hubs'. Educ.	6.499	0.01**	8.135	0.00**	0.005	0.94
Hubs'.Main Occ.	0.468	0.49	2.603	0.10	0.641	0.42
Hubs'.Sec.Occ.	8.396	0.01**	0.275	0.87	3.921	0.14
Hubs'.No.Wives	2.172	0.14	0.017	0.89	0.870	0.35
Hubs'. Resp'ty.	2.079	0.15	7.437	0.00**	1.115	0.29
Village Zone	2.014	0.15	1.484	0.22	1.676	0.19

**Sig. at 0.01
*Sig. at 0.05

Respondents' Age: Age is an important factor in farming. Since farming in Sierra Leone relies very heavily on human labour, the productive age group is an asset. In extension education that aims at changing farmers decisions, age also becomes an important factor. Younger people are known to be more open to changes or acceptance of new ideas than their older counterparts. They are, therefore, more likely to seek or obtain these services. Hence the hypothesis predicted that younger women farmers have better access to these services than older women farmers. As shown by the results, the Chi-square test reveals a significant relationship at the 0.05 level between respondents' age and both the amount of extension advice/information and training received. When the age groups are, however, collapsed into productive (<60 years) and dependent (>60 years) categories, the results show no significant relationships for either of the two services. For both tests age is not significantly related to the number of women who applied for farm loans. This indicates that while younger women can potentially get more advice/information and training, the situation is different when it comes to farm loans. Generally, as women advance in age in Africa, they acquire more wealth through their grown-up children. While this makes them more "credit-worthy" they get more reluctant/disinterested in "risky ventures" such as taking loans from banks to invest in farming activities. It must, however, be cautioned that age is one of those problematic variables that rely on guess work, as it is very difficult for people with low literacy rates to recall their birthdates.

Respondents' Education: Literacy is an important factor in extension education that aims at changing farmers' attitudes towards farming. Moock (1976), for instance, discovered that even primary school education made a significant increase in the use of extension advice/information for the women in his study. One advantage of education is that it increases the use of other sources of information like newspapers, books and radio. Also, literacy increases the chances of getting better jobs and, therefore, reliable income and knowledge about formal sources of farm loans. As shown in Table IV.6, respondents' education is significantly associated with both extension advice/information and training received at the 0.01 level. When collapsed into two categories, education and extension advice/information received remain significant at the 0.01 level but that of extension training becomes significant only at the 0.05 level. Again, applying for farm loans seems independent of respondents' education when tested at both stages. It is probably not surprising that this is so, because the women's highest level of education does not exceed secondary education. Without job training as they seem to indicate in the study, the women's

chances of earning income higher than their illiterate counterparts is slim. Without collateral and/or knowledge about farm loans and procedures of acquiring them, literacy probably does not make much difference among the women interviewed. Added to this, literate women, like all other women, would still normally require their husbands/male-head figure's approval to apply for loans.

Respondents' Secondary Occupation: About 56% of the women are engaged in other economic activities besides farming. Nearly half of these are, however, involved in petty trading, largely the sale of farm produce from which incomes are usually low. This is because subsistence farming hardly creates meaningful surpluses for viable marketing. And with the low literacy rate, the highest level of education being secondary education, salaries for "modern" jobs are likely to be at the bottom end of the wage scale. In short, there might not be much difference in the earning capacity of these women and those without secondary occupations. This probably explains why results show no significant relationship between this variable and any of the three dependent variables for both procedures carried out at the 0.05 level of significance.

Respondents' Income: The role of income in obtaining agricultural services has been emphasised in several FAO reports (1987, 1986, 1983, 1964) and country studies (Henn, 1988; Chepkonga, 1985; Roling, 1979). These reports/studies indicate that extension workers provide more advice/information and training to richer farmers. For instance, critics of the training and visit system observe that "progressive farmers" whom extension workers concentrate on coincide with the wealthy farmers. Farmers with higher incomes also have the means to travel and pursue extension advice/information and training. Based on these potential advantages, it was hypothesized that women with higher incomes will have better access to all the services under investigation. For both tests, income shows a significant relationship with advice/information and training at the 0.01 level. It however, shows no significant relationship with applying for farm loans when both procedures are carried out. Several deductions could be made from this result. The high income women may not need farm loans as most of these farms are usually very small to require large capital for farm inputs. Married women need the approval of their husbands for such a venture. With the low literacy rate in the region, the women may neither be aware of such loans nor know the procedure for applying.

Respondents' Responsibility: Over 60% of the women support people above the average figure in the sample (10 people). As has already been noted elsewhere, this can be an advantage or a disadvantage depending on the ages of those supported. If such people belong to the productive age category (>18, <60) they can be a source of cheap labour. If, on the other hand, they fall into the dependent age category (<15, >60) this can worsen the woman's economic situation. At the first stage of tests, respondents' responsibility appears independent of all three dependent variables at the 0.05 level. When divided into "low" (<10) and "high" (>10), a significant relationship appears between respondents' responsibility and extension training received, but not so with extension advice/information received and farm loan applied for. More responsibility may mean less housework and therefore more time for the women to obtain extension training.

Husbands' Age: The results show no significant association between husband's age and all three dependent variables. While age could be an asset (the productive category) in terms of labour and the potential to accept new ideas/techniques, other factors such as income need to be available for the acquisition of these services. The general pattern is that young people generally lack the means to acquire these services. The older ones who may have the means are generally said to be conservative and unwilling to seek agricultural services or accept them when they are brought to them.

Husbands' Education: This shows a significant relationship with both extension advice/information and training at the 0.01 level and at both stages of testing. It is probably not surprising because with their comparatively higher level of education, the men have increased sources of information at their disposal which may spill over to their wives. Higher education also gives the men greater chances of getting jobs from which they can get more income. Subsequently, since higher income earners attract extension workers more, this puts the wives of such men at an advantage. Like the women, husbands' education shows no significant relationship with the women's application for farm loans for reasons already discussed.

Husbands' Main Occupation: The Chi-square values show no significant relationship between husband's main occupation and all three dependent variables. This is probably because with more than half the husbands as farmers, they are likely to be low income earners as occupation is a good indicator

of income. The men, therefore, lack the means of acquiring these services for their wives. Further more, their level of education also reduces the women's chances of knowing about farm loans and the procedure of applying for them.

Husbands' Secondary Occupation: Nearly half the husbands have a secondary occupation in this sample but a large majority of them (82%) are farmers. Unlike the women however, this variable shows a significant relationship with some dependent variables. The first stage of tests shows that this variable is significantly related to both extension advice/information received and the application for farm loan at the 0.05 level. At the second stage, it has a significant association only with extension advice/information received. At both stages, however, there appears no significant association between this variable and extension training received. One can conclude from this result that a higher percentage of these farmers are engaged in higher-paid non-farm primary jobs (44%) that bring in extra income with all its attendant advantages. Holding two jobs, however, means more work for the men and invariably for the wives as well, if these women are to get extension training.

Husbands' Number of Wives: About 60% of the men have two or more wives. Although polygamy is still the major family type in most of Sierra Leone, this has been decreasing with education. By and large, this family type is associated with religion (the muslims) and people who are more "traditional". The effects of this practice are, probably, reflected in the results where this variable shows no significant relationship with any dependent variable at both stages of tests. The beliefs and practices of "traditional" people (as will be seen in later sections) restrict extension activities a great deal.

Husbands' Responsibility: One basic advantage and disadvantage of this has already been stated elsewhere. In this sample, the overall number of people the men support far exceeds those supported by the women. The results show a slight difference between the women and their husbands. Unlike the women, responsibility is significantly related to extension training at both stages of tests at the 0.05 level. More responsibility for husbands could mean more cheap labour and less work for the women to obtain extension training. There appears to be no relation, however, between this variable and the other two dependent variables.

Village Zone: As has already been discussed in chapter one, NUC and the other institutions situated in Njala have been direct or indirect sources of extension/extension-related activities in the study area over the years. It is on the basis of this that the third hypothesis was formulated. That is, that women's

access to agricultural services is related to distance to Njala. With the whole study area divided into three zones, village zone 1 is situated closest to Njala (less than 8 miles away) while village zone 3 is farthest away (17 to 25 miles away). As the results show, village zone is significantly related to both extension advice/information and training received at the 0.05 level but not so for women's application for farm loans. When collapsed into two zones (zones 2 and 3 combined), the results show no significant association with any of the dependent variables. One might conclude from this that due to the deteriorating economic situation and other factors, the influence of Njala as a major source of extension activities for the region may have reduced drastically over the years.

To sum up, three main factors appear to be significantly related to women's access to extension advice/information and training. These are women's education, income and their husbands' education. Taking into consideration the advantages the second stage of tests performed have over the first, one can add that both respondents' and their husbands' responsibility have significant relationships with women's access to extension training, while husband's secondary occupation seems to have this effect only on women's access to extension advice/information. On the whole, none of these independent variables, however, appear to be significantly related with women's applying for farm loans.

4.4.2 Regression Analysis

In the preceding section we saw that certain independent variables are significantly associated with women's access to extension advice/information and training. At this stage a higher statistical test is performed with variables measured at the interval scale. Included is education, originally measured at the ordinal level. This is transformed into dummy variables of illiterate for none and primary level, and literate for secondary to university levels. Having detected associations between these variables and two of the dependent variables, the objective in this section is to establish the strength and the form of relationships between these dependent variables and the independent variables. The results are summarized in Tables IV.8, IV.9 and IV.10.

In Table IV.8, the results of regressing extension advice/information on selected independent variables are given. There are both negative and positive slope values but except for respondents' education and income, these values are all very close to zero. This means that changes in these independent variables (respondents' age and responsibility, husband's age, education, number of wives and responsibility) have very little effect on extension advice/information received. The comparatively

higher slope values of respondents' education and income indicate some amount of effect on the dependent variable. That is, as respondents' education and income increase, extension advice/information received decreases. An explanation for this is that while both education and income enhance greater access to agricultural services, farming as it is in this region is so unattractive that it forces educated and higher income people into other viable economic activities. Such activities hardly accommodate agricultural extension activities. Only the beta value of respondents' income is significant at the 0.05 level, but the very low R_2 of 0.17 indicates a weak relationship. That is, only 17% of the variance in extension advice/information received is explained by respondents' income. The combined low R_2 of 0.36 also indicates a weak relationship between the dependent variable and all the independent variables used. This means that only 36% of the variance in extension advice/information received is explained by these variables, leaving a high 64% unexplained.

TABLE IV.8

REGRESSION RESULTS OF EXTENSION ADVICE/INFORMATION ON SELECTED INDEPENDENT VARIABLES

	EXT. ADV./INFO. ON IND. VARIABLES			
VARIABLES	**SLOPE(B)**	**BETA**	**SIG. T**	**R^2 VALUE**
Rsps'. Age	-0.009	-0.274	0.06	0.061
Rsps'. Educ.	-0.328	-0.303	0.06	0.077
Rsps'. Income	-0.134	-0.420	0.00**	0.169
Rsps'. Resp'ty	0.029	0.198	0.15	0.035
Hubs'. Age	-0.003	-0.128	0.52	0.007
Hubs'. Educ.	-0.042	-0.061	0.68	0.003
Hubs'.No.Wives	0.027	0.088	0.66	0.003
Hubs'. Resp'ty	0.014	0.095	0.54	0.007
R^2 ADV./INFO.				**0.36**

**Sig. at 0.01

Table IV.9 shows the result of regressing extension training on the selected independent variables. As it is for extension advice/information, only the slopes of respondents' education and income are slightly high, the rest again just above zero. Here too these variables (respondent's education and income) appear to have a negative relationship with the dependent variable. Also, only the beta value of respondents' income is significant. The relationship here is much stronger as the R_2 value is very high (0.76). This means about 76% of the variance in extension training received is explained by respondents' income. The very high combined R_2 value of 0.82 also indicates a far stronger relationship between extension training and the total independent variables. That is, 82% of the variance in extension training received is explained by these independent variables, leaving only 18% unexplained.

In Table IV.10 application for farm loans is regressed upon the independent variables. There are also negative and positive slope values but these are all very close to zero. This means changes in all independent variables will likely have very little effect on application for farm loans. The extremely low combined R_2 values of 0.09 shows

TABLE IV.9

REGRESSION RESULTS OF EXTENSION TRAINING ON SELECTED INDEPENDENT VARIABLES

VARIABLES	SLOPE(B)	BETA	SIG. T	R^2 VALUES
Rsps'. Age	0.000	0.002	0.97	0.000
Rsps'. Educ.	-0.128	-0.161	0.33	0.022
Rsps'.Income	-0.207	-0.888	0.00**	0.756
Rsps'.Resp'ty	0.006	0.060	0.42	0.003
Hubs'. Age	-0.000	-0.040	0.71	0.001
Hubs'. Educ.	-0.066	-0.132	0.38	0.017
Hubs'.No.Wives	0.016	0.696	0.52	0.002
Hubs'. Resp'ty	0.019	0.167	0.05*	0.02
R^2 EXT. TRN.				**0.82**

**Sig. at 0.01

*Sig. at 0.05

TABLE IV.10

REGRESSION RESULTS OF FARM LOAN APPLIED FOR ON SELECTED INDEPENDENT VARIABLES

VARIABLES	SLOPE(B)	BETA	SIG.T	R^2 VALUE
Rsps'. Age	-0.002	-0.193	0.25	0.030
Rsps'. Educ.	0.071	0.152	0.36	0.019
Rsps'. Income	0.010	0.073	0.63	0.005
Rsps'. Resp'ty	-0.005	-0.082	0.61	0.006
Hubs'. Age	0.001	0.117	0.61	0.006
Hubs'. Educ.	-0.052	-0.176	0.24	0.031
Hubs'.No.Wives	0.003	0.028	0.90	0.000
Hubs'. Resp'ty	-0.001	-0.017	0.92	0.001
R^2 LOAN APLD.				**0.09**

almost no relationship between the dependent and the independent variables. As it stands, therefore, about 99% of the variance in farm loans applied for is unexplained by these independent variables.

In summary, the findings show that only income has a significant influence on extension advice/information and training received. Unlike other results however, this influence is negative because of reasons already explained. The influence of income is greatest on extension training where 76% of the variance in training received is explained by it (income). The rest of the independent variables used are not only statistically insignificant but much of the variance, particularly in extension advice/information and application for farm loans are unexplained. It is therefore possible that other unidentified factors may be more important in explaining women's access to these services in this region.

CHAPTER V

DATA ANALYSIS II

5.1 Main Problems Women Farmers Face In Getting Agricultural Services

Results in the preceding sections clearly show a very bleak picture of women farmers' access to the agricultural services under study in this region. The picture that emerges is a decrease in both the level of awareness (knowledge) and availability of the services to the women as the value of the service increases, where value is determined by the amount of money involved in providing these services. That is, as the service shifts from advice/information to farm loans, its availability to the women gets less and less. The results confirm this general pattern. Just as the level of awareness decreases from 42% to 33%, so does the proportion of women who received these services dwindle form 13% to only 1% as it progresses from advice/information to farm loans. This section seeks to address the problems of accessing these services as perceived by the women. Tables V.1, V.2 and V.3 show a summary of these major problems.

Two major problems stand out distinctly in women's access to extension advice/information. As shown in Table V.1, over half of the women regard socio-cultural factors and discrimination as major constraints. Culture has profound effects on social relations, and in rural settings these relations change very slowly. With regards to extension advice/information, this relates mainly to communication restrictions between adults of opposite sex, particularly those outside the family circle. In this sample, 95% of the extension workers were reported to be males. By tradition, these men cannot freely talk to married women in particular, nor can the women freely talk to them. In fact, only 9% of the women ever asked for extension advice/information in this survey. The women also stated that even when extension workers visit their homes or farms, they are excluded from discussions.

Two other problems that could be off-shoots of socio-cultural factors are heavy workload and the jealous husband. Culture dictates sexual roles and most day-to-day chores in the home fall on the women. This is in addition to the other duties like farming. For women who are particularly over worked, listening to extension discussion in itself is regarded as "idle talk".

TABLE V.1

MAIN PROBLEMS WOMEN FARMERS FACE IN GETTING EXTENSION ADVICE/INFORMATION

PROBLEM	PERCENTAGE OF RESPONDENTS
SOCIO-CULTURAL FACTORS	
Communication	40.5
Heavy Work Load	18.0
Jealous Husbands	14.5
DISCRIMINATION	
Sex	40.0
Illiteracy	12.5
Poverty	10.0
EXT./GOVT. RELATED	
Unaware of Service	14.0
Transportation Difficulties	12.0
Negligence of Ext. Workers	12.0
Few Extension Workers	8.5

The major cause of jealousy on the husbands' part in this context seems to stem largely from what the women are supposed to do/not to do. Following the traditional "laws", these restrictions create direct/indirect barriers to communication between extension workers and women. Similar factors restrict husbands from sharing extension knowledge with their wives.

From the women's responses, discrimination featured in three main areas - their sex, illiteracy and poverty. They believe that extension workers neglect them because as women they are not important in farming. Only male farmers are regarded as important which is why they get the attention. Considering the very high illiteracy and poverty rates among the women, it is not surprising that both factors feature for them. It is acknowledged that most extension systems focus on the educated and the rich. Their knowledge and wealth have gained them descriptions like "progressive farmers" and "innovators". With all three factors at play for a majority of the respondents (as women, poor and illiterate), it is perhaps not surprising that their access to extension advice/imformation is extremely low. FAO reports stress these three factors as major causes of inequities in the delivery of agricultural services.

The rest of the problems appear to be directly or indirectly related to extension workers and/or the government. Altogether, only about one quarter of the respondents mentioned these latter two as problems. That the women are unaware of this service could stem from the lack of publicity of such service for them, or the low availability of the service by and large in the region. It could also be an administrative problem, which is probably why about 14% of the women think that extension workers neglect their duties. In a situation where there is little or no accountability, it is so easy for duties to be neglected. The women also cited the very small numbers of extension workers as a reason why their presence may not be felt at all. This, coupled with transportation difficulties, means the few extension workers cannot travel easily to spread extension information nor can the women travel to seek this service when in need.

Table V.2 shows a change in the order, and perhaps the gravity, of the problems women face in obtaining extension training. The problems of socio-cultural factors are superseded by both discrimination and extension/government-related problems in the case of extension training.

As discussed under extension advice/information, discrimination in the areas of sex, illiteracy and poverty are reported as paramount. About 42% of the women specifically mentioned that the service is for male farmers alone. Besides the fact that male farmers generally get more attention from extension agents, they also have less restrictions to travel for extension training. Again, it is not surprising that the women (33%) feel discriminated against because of their poverty and illiteracy. Just as in the case of extension advice/information, the rich and educated farmers are more likely to get extension training. Furthermore, they are more likely to seek this service for themselves because of the cost involved, which may explain why only 2 women in the sample have ever asked for extension training.

The reported extension/government-related problems generally point to five areas. More women reported unawareness about the service and about the small numbers of extension workers. These two problems may be related to the women's assumption that the service is for male farmers. For as long as these services are seen to be offered mainly to male farmers, they seem not to exist for women farmers. Two new problems emerge here - lack of interest in the service and the service not seen as an immediate need. The latter problem is likely a product of the former. For a clientele that is largely poor and illiterate, such services should bear immediate and tangible results to be attractive. This is more likely to be achieved

TABLE V.2

MAIN PROBLEMS WOMEN FARMERS FACE IN GETTING EXTENSION TRAINING

PROBLEM	PERCENTAGE OF RESPONDENTS
DISCRIMINATION	
Sex	42.0
Illiteracy	20.5
Porverty	12.5
EXT./GOVT. RELATED	
Unaware of Service	19.5
Lack of Interest	17.0
Travelling Difficulties	12.0
Service Not Immediate Need	11.0
Few Extension workers	10.0
SOCIO-CULTURAL FACTORS	
Jealous Husbands	22.0
Heavy Workload	17.0

when extension efforts are tailored to farmer's needs. But with the kind of top-down extension systems that operate in most African countries, it is not uncommon for the priorities of farmers to be poles apart from those of the extension system. Such disparity can easily cause a lack of interest in the service.

As already mentioned, socio-cultural factors seem to pose the least problems to women's access to extension training. The two setbacks listed here may be a result of the fact that training demands more time. This may explain why more women reported jealous husbands. It therefore seems that the approval of husbands and time factor become more critical to the availability of extension training.

As can be seen from Table V.3, yet another change takes place in the order of problems concerning women's access to bank loans. The various responses show that most of the women regard these problems as extension/government-related. The level of unawareness about this

service more than doubles (37%) that of the figure reported for extension advice/information. The rest of the problems directly relate to the acquisition of the loans. About 12% reported that lack of knowledge on application procedures is a problem. In terms of real numbers, this figure may be extremely low for a sample such as this where illiteracy rates are so high and only about 11% had been taught the procedure involved in applying. In terms of priority however, it may not be strange if one considers the women's situation vis-a-vis the conditions under which these loans operate. This is probably why about 35% of them stated that these conditions are difficult for them to meet, besides another 8% that thought that bank interest rates are too high for them. In fact, only 3 women in the whole sample had ever applied for farm loans, 2 of whom applied to an informal source (credit and thrift society).

TABLE V.3

MAIN PROBLEMS WOMEN FARMERS FACE IN GETTING FARM LOANS

PROBLEM	PERCENTAGE OF RESPONDENTS
EXT./GOVT. RELATED	
Unaware of Service	37.0
Loan Conds. Diff.to Meet	35.0
High Contact Required	17.5
No Know. of App. Procedure	11.5
Loans Not Monitored	10.0
Cannot Meet Interest Rates	7.5
DISCRIMINATION	
Sex	20.0
Poverty	10.5
Illiteracy	7.5
SOCIO-CULTURAL	
Unsupportive Husbands	20.0
Not Allowed	13.0

Another factor that emerged is that getting bank loans requires "contact" in high places. This is to be expected where such services are so scarce. To further emphasize this point, loans themselves were reported not to be monitored. This is why the women complained that under such conditions, loans will never go to those who need them most.

Like the other services, the women stated that discrimination against their sex, illiteracy, and poverty poses as a major obstacle to their obtaining bank loans. If getting farm loans can only be within the parameters of conditions clearly beyond what women can satisfy, such policy can be interpreted as a deliberate means of excluding them from such a service.

The reported socio-cultural factors seem to exacerbate situations for the women. About 20% think that the husbands are unsupportive in this direction. The husbands are reported to demonstrate outright disinterest/disapproval and when this happens, women cannot easily meet loan conditions on their own. This is because the most common forms of collateral in rural areas are largely male-owned (land, title, plantation, house etc.). Even if the women had these, tradition disapproves of them taking "such bold decisions" without their husbands' approval.

Table V.4 gives a general perspective of what category of problems appear to have the most effect on what type of agricultural service. In terms of extension advice/information that relies most on communication, socio-cultural factors appear as major obstacles. Training involves both communicating and doing, hence it is more expensive and time-consuming. On the one hand, culture seems to restrict access to this service, but on the other, the extension system/government seems to bypass the women. With the two forces at play, discrimination emerges as the major obstacle to the acquisition of extension training. The major barriers to getting bank loans appear to be centred around the extension system and the government. A similar picture emerges for the effect of the three categories of problems on the overall availability of the three services. As the value of the service increases, the problems appear to shift heavily on to the government/extension system. This is likely so because it is the government that largely provides these services and it is the government that also controls them. So while both discrimination and culture may limit women's access to agricultural services, the government and the kind of extension system that it provides and operates seem to determine largely the availability of these services for the women.

TABLE V.4

CATEGORIZED PROBLEMS WOMEN FARMERS FACE IN GETTING AGRICULTURAL SERVICES

(PERCENTAGE OF RESPONDENTS)

PROBLEM	EXTENSION ADV./INFO.	EXTENSION TRAINING	FARM LOAN APPLIED
SOCIO-CULTURAL			
Communication	40.5	----	----
Heavy Work Load	18.0	17.0	----
Jealous Husbands	14.5	22.0	----
Unsupportive Hubs.	----	----	20.0
Not Allowed	----	----	13.0
DISCRIMINATION			
Sex	40.0	42.0	20.0
Illiteracy	12.5	20.5	7.5
Poverty	10.0	12.5	10.5
EXT./GOVT. RELATED			
Unaware of Service	14.0	19.5	37.0
Travelling Diffs.	12.0	12.0	----
Negligence of Ext.	12.0	----	----
Few Ext. Workers	8.5	10.0	----
Lack of Interest	----	17.0	----
Not Immediate Need	----	11.0	----
Diff. Loan Conds.	----	----	35.0
Need High Contact	----	----	17.5
Procedure Unknown	----	----	11.5
Loans Unmonitored	----	----	10.0
High Int. Rates	----	----	7.5

5.2 Suggested Solutions To Problems Of Getting Agricultural Services

We have seen that women farmers' access to all three agricultural services is extremely low. We have also seen what the women perceive as major constraints to the accessibility of these services. This section concerns the women's suggestions as to what certain groups of people can do to help alleviate the constraints already analyzed. These suggestions focus on five groups of people:

a) The government, as the major provider and controller of extension activities in the region.

b) Extension workers, as those who carry out extension activities.

c) Foreign governments/agencies, as donors (aids/projects) for extension activities in the region.

d) Husbands, for the traditional control they have over the women and as informal sources of "extension" advice/information.

e) Relatives/Friends/Neighbours, as major informal sources of "extension" advice/information for the women.

As already revealed, direct extension/government-related issues pose the greatest constraints to women's access to agricultural services in this region. Of paramount concern among the women is that they feel discriminated against because of their sex, education, and poverty. This is probably why over one quarter of the women suggest that the government focus on them as a specific group, and as high as 42% suggest likewise for extension workers. While it is true that the government provides most of these services, it is the extension workers that work directly with the farmers, hence the reason why this demand appears stronger for them. As women, their farm roles are largely different from men's, and for extension advice/information and training to be meaningful, these must be centred around their roles. As a largely illiterate group, women's access to other sources of information are highly limited. Also, as a largely poor group, their chances of getting these services through other means are very limited.

Using the mass media is a cheaper way of reaching more people. In rural Sierra Leone, the most common of these are radios. At least a quarter of the women think government can reach them through the national broadcasting service. Radio talks can, among other things, serve as publicity for/about the availability and advantages of using these services. Where extension workers are particularly few, this can also serve as an alternative source of advice/information on farming, and also a channel through

TABLE V.5

WOMEN'S SUGGESTED SOLUTIONS TO PROBLEMS

THE GOVERNMENT	PERCENTAGE OF RESPONDENTS
Focus on Female Farmers	28.7
Promote Radio Talks	26.2
Monitor Extension Activities	15.0
Train More Extension Workers	11.4
Promote Vill.-level Ext. Acts.	7.5
Provide Farm Inputs	5.9
Support Rural Credit Assoc.	5.0
EXTENSION WORKERS	
Focus on Female Farmers	42.3
Teach and Monitor Farm Loans	12.9
Perform Duty	9.8
Accomp. Acts. with Inputs	7.9
Increase Farm Visits	7.5
Persuade Husbands	7.4
Have Demo. Farms	5.3
Promote Group Ext. Acts.	4.5
Base Acts. on Farmers Needs	2.0
FOREIGN GOVTS./AGENCIES	
Provide Loans for Fem. Farmers	36.0
Monitor Loans	33.0
Provide Farm Inputs	19.3
Open Rural Banks	11.7
HUSBANDS	
Encourage/Support Wives	33.2
Grant Permission	27.0
Share Knowledge with Wives	22.7
Give Wives Personal Loans	7.9
Help Wives with Work	6.7
Put Pressure on the Government	2.5
RELS./FRNDS./NEIGHBOURS	
Share/Spread Know.	46.3
Form Credit Soc./Groups	33.0
Support for Travelling	8.5
Put Pressure on Govt.	7.3
Give Personal Loans	5.0

which important trends in farming can be disseminated. Finally, through this medium, the women can relay their concerns that may open a two-way communication between them and the government/extension system.

The women believe that they are not reached by the extension system because there are very few extension workers who are all males. This, together with cultural factors that restrict communication between male extension workers and the women, added to the negligence of the extension workers themselves aggravates the women's situation. About 11% of them, therefore, suggest that the government train more extension workers, especially females. Another 15% also ask that extension activities be monitored as 10% of them feel that extension workers do not perform their duty. Good planning can, among other things, promote a better delivery system where these services can be based on the needs of the women.

Several problems were mentioned that prevent women from travelling to get extension advice/information and training. Some of these include transportation difficulties (high fares in particular), difficulties in obtaining permission to travel and time. It is, therefore, suggested that the government promotes village-level extension activities. In the first place, it is easier for extension workers to meet the women than it is for the women to meet them. With proper coordination between the extension system and the local officials, women can meet in groups to allay the fears of jealous husbands. Such group activities can also act as a spring board for involvement in demonstration farms that can be managed by the women under the supervision of extension workers.

Finally, about 6% of the women suggest that the government provide agricultural inputs at subsidized rates. It should be noted that some women expressed disinterest in the entire extension activity while others thought it is not an immediate need. Such feelings are expressed because extension, which centres around the dissemination of new knowledge/technique, cannot make much difference if not put into practical use. The financial state of these women makes the availability of the necessary inputs almost impossible, hence the justification for this suggestion. As if to stress this point, a further 8% emphasize that extension workers should accompany their activities with the necessary farm inputs. Governmental support of rural credit associations is also a way of making agricultural inputs accessible for the women. Women have their own informal credit societies such as "osusu" in this region. These are run by the women on their own terms. But since most women are low income earners, the running

capital of these associations is too low to promote meaningful investments in farming activities. In fact an ACRE report (1976) shows that such associations are largely used by the women to fulfil their social commitments. If these credit associations are backed by some form of external capital through the extension system, the women's priorities could be directed into farming.

Foreign governments/agencies are known to play major roles in extension activities in developing countries. What the women suggest here emphasizes their role as providers. Again, the plea for focus on them as a group emerges from 36% of the women. Perhaps as a precautionary measure, 33% of them ask that whatever loans are provided should be monitored. It should be remembered that the women complained that loans do not get to the right people as most go to the "rich". Nineteen percent of the women would also like external donors to aid their government in providing farm inputs for them. While it is not uncommon for farm loans to be used on activities other than farming, inputs such as improved tools, new variety seeds/seedlings, fertilizers etc. are more likely to be used up in farming activities. The other advantage is that if these are delivered within the extension system, they can form the basis of advice/information and training thereby making such activities more meaningful and attractive to the women.

Certain socio-cultural factors revealed that husbands do not generally encourage women's involvement in extension activities and the majority of the women's suggestions in this context centre around this. Although men generally get more extension advice/information, 23% of the women imply that such knowledge does not "trickle-across" to them. Another 33% clearly state that husbands should encourage/support them to get involved in extension activities. About 27% of the women believe that increased communication and training with extension workers, and support in taking farm loans are ways husbands can facilitate their involvement in extension activities. They can also help with not so controversial house work to reduce the workload of the women. With the scarcity of bank loans, 8% of the women suggest that husbands give them personal loans since they generally have higher incomes than the women. Another 3% of them also believe that husbands (as males) have the potential of putting pressure on the government/extension systems to improve the availability of these services. The men form the power structure of most of these communities and it is they that national politicians largely deal with. But as can be seen, this can only be achieved when the barriers created by the men are removed.

The suggestions made by the women for relatives/friends/neighbours seem to point largely to group endeavor. A high 46% ask that knowledge/information be spread through them. In fact, for over half of the women in this sample, these have been their major sources of "extension" advice/information. Three suggestions are related specifically to money. About 33% of the women suggest that they form credit groups for loans to be given to individuals or groups in accessing some of these services. As a group also, they can put greater pressure on the government/extension systems to improve their access to these services.

CHAPTER VI

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Rural women in Africa are confronted with many problems in their farming activities. A body of literature emphasizes that they are disadvantaged in their access to all food productive resources among which are extension advice/information, training, and farm credit. Focusing on these three areas, the scope of this study has been to determine how many of these services are available for women, what problems they face in getting these services, and what possible solutions there are to these problems. The major findings from the data collected are summarized in the section that follows. Following this are recommendations, largely based on the women's suggestions as ways of facilitating their access to these services.

6.1 Summary Of The Study

6.1.1 Availability of Agricultural Services to the Women

1. Majority of the women know that extension workers provide advice/information, training and information on farm credit for farmers in general, but only about half of them know that these services are available to women farmers as well.

2. Very few of the women have ever received extension advice/information and training, and none has received loans from banks for farming purposes. They lack knowledge of application procedures and cannot meet the loan conditions.

3. Most of the women currently get these services through informal sources. Advice/information on farming is mostly given by family members, friends, and neighbours. The two women who got loans for farming purposes obtained them from informal sources, their credit and thrift societies.

4. About 20% of the women listened to radio discussions on farming issues (the most common source of formal advice/information for the women), and only 10% obtained extension advice/information. Two sources of extension training are presently available for the women - ACRE and the Ministry of Agriculture.

5. According to the women's ratings, extension activities in this region have generally decreased over the past 5-10 years, especially those provided by NUC.

6. The frequency at which these services are provided for the women is extremely low. Of the 20 who

received recent extension advice/information, only 25% got it 3-4 times while the rest had it 1-2 times for the whole farm season. Of the four women who obtained extension training, two received it 1-2 times and the other two got it 3-4 times the whole season.

7. The tests do not support the hypotheses that accessibility to agricultural services is related to a) male-presence and b) distance to Njala. The results show no significant difference in access to these services between women in male-headed households and those who are heads of their households, neither does accessibility significantly differ in the three zones.

8. Women's access to these services is significantly related to certain socio-economic factors. Their education, income, and their husbands' education (for those married) show significant relationships with their access to extension advice/information and training. These relationships, however, appear to be negative in all cases. None of the selected factors seem to have any significant effect on women's application for farm loans. The combined effect of all the selected socio-economic characteristics is strongest on extension training. This means that much of the difference in women's access to training is explained by these selected factors. This is not the case when one considers their access to extension advice/information and application for farm loans.

6.1.2 Major Problems Women Farmers Face in Getting Agricultural Services

Socio-cultural factors are perceived as the greatest barriers to women's access to extension advice/information. Among these are restrictions culture places on communication between adult males and females, and how this triggers jealousy/disapproval in men if overlooked. The work-burden of the women does not also allow them time to listen to extension workers.

The women feel most discriminated against in getting extension training as majority have come to regard it as a service for male farmers. With few extension workers, most women are unaware that the service is available to them. They also lack both time and money that are so essential for extension training, and they do not easily get the support of the men to be involved. Some admit a lack of interest altogether, while others think this service is not an immediate need for them.

The women blame the extension system and the government most for their very limited access to all three services, but especially for their access to farm loans. They are unaware of these loans because neither the government nor the extension system publicizes them. They are not taught application procedures, nor are they provided with other useful information on bank credit. Conditions set for getting

these loans are largely beyond their reach. The women are also restricted by unsupportive men and handicapped by illiteracy and poverty. Furthermore, because these loans are scarce and not monitored, most go to people with the right contact.

6.1.3 Suggested Solutions to the Problems

Since the women perceive most of the problems they face in getting these services as government/extension related, most of their suggestions are directed at the government and the extension system. These are summarized thus:

1. The Government and the extension system must plan and implement specific programmes and projects that focus on women as a target group.
2. Radio talks on farming issues must be promoted as this has the potential of reaching a greater number of women.
3. Extension workers can reach women more easily in groups. Groups are also more likely to face less resistance from male figures while at the same time extension efforts are maximized given that there are so few extension workers.
4. Female agricultural extension workers must be trained because they can reach women more easily than the males.
5. Extension workers must be effectively supervised to perform their duties well.
6. Extension information must be backed by subsidized farm inputs as an inducement.
7. Foreign governments/agencies must continue to assist in providing these services for women farmers, as well as also monitor and evaluate their impact.
8. Lack of encouragement, support, and approval of husbands are unfavourable attitudes to women as farmers. If planners, policy makers, and extensionists, who themselves are mostly males, have a positive attitude towards women, it can help change the attitudes of the husbands.
9. Family members and friends must form groups to share extension knowledge and help spread its advantages to get others involved. They must also support each other in their farming activities.
10. These groups/associations must be strong enough to put pressure on policy makers to recognize and address their problems, something the women feel they cannot achieve on their own.

6.2 Recommendations

This study has highlighted a number of factors that prevent women farmers from getting extension advice/information, training, and farm loans. By and large, these services may be generally low for all farmers in this region (an effect of deteriorating economic conditions). But if barriers are not removed, women farmers will still not be effectively reached under the best circumstances. In this section, recommendations are given, within the framework of suggestions made by the women, as ways of facilitating their access to these services.

6.2.1 Policy Issues

Extension activities are publicly funded in Sierra Leone and this makes the role of the government very crucial in the provision of these services. For nearly a decade now, declared policies of the government with respect to women farmers have generally reflected those of WCARRD and other international bodies concerned with women and their problems in farming. One such policy declared in the early 1980s proposed to develop agricultural extension services for women farmers and facilitate their access to credit, fertilizers and other farm inputs. Evidence, however, shows that this has still not been translated into concrete measures to benefit women. For instance, an assessment of extension activities in the study area from two major extension sources - NUC (Gboku and Jibowo, 1988) and ACRE (Smith and Kaindaneh, 1989) - show that over 90% of the contact farmers were male farmers even though the crops promoted were mainly food crops (largely the domain of women farmers).

Translating such policies into concrete measures requires appropriate planning and action. This perhaps must start with a redesigning of the entire extension system that does not seem to be reaching women farmers in the present. First, these women must be identified as a target group and no longer just as part of the farm family. As long as they remain considered as such particularly within a male-oriented society, there will be a tendency to focus on males as heads of the family. Planning within this framework involves an identification of women's needs, the crops they produce, the livestock they raise, the farming systems within which they operate, and the time period within which they work. This knowledge can form the basis of extension messages thereby making them more relevant to women as well as arousing their interest and promoting their involvement in extension activities. It also guides the extension system to plan activities within the time schedule of the women who are already overworked.

This process also requires trained field workers that are capable of addressing women's issues. With communication restrictions on male extensionists, more female agricultural extension workers should be trained. There must also be structural changes within the extension system to allow for effective supervision and ensure that duties are correctly performed. Finally, there is need for greater commitment from all involved (planners, policy makers, extensionists etc.) to implement these strategies because the best of programmes can still fail if this is neglected.

6.2.2 Socio-cultural Issues

Strategies that seek to improve women's access to agricultural services must also contend with attitudinal factors. This relates largely to unfavourable attitudes held by decision-makers and husbands towards women and their involvement in agricultural development as a whole. First, men as heads and recipients of most extension benefits have for long been perceived as "the farmers" and women only as "helpers". Considering that women here provide most of the labour in farming, such an attitude means that the true value of women's contribution is not recognized. Women must be recognized as farmers in their own right, because as Gill (1987:30) explains, "... women's position in the general society sets the stage for their contribution to agriculture ... [and] this, in turn, governs how much access they have to extension services". Failure to recognize this means adequate consideration will not be given to women's problems in their attempts to acquire these services. Furthermore, given that culture restricts communication, most extensionists will not make any serious efforts to reach women because of this attitude, neither will the men easily provide the support the women so desire.

Another effect of such unfavourable attitudes is that the women themselves believe they are "only women" and the men are "the farmers". These descriptions reflect an undertone of helplessness. Such a feeling decreases women's confidence in themselves, undermines their values, and decreases their motivation to be involved even in activities that might improve their situation. There is, therefore, a strong need for women's true values to be recognized and their confidence restored to maximize their productivity.

The extension system can play a catalytic role in this process. But first, extension workers must be trained to appreciate and then appropriately deal with women's concerns. As members of the society,

they can raise the consciousness of other men about the importance of women in farming in an effort to change their unfavourable attitudes. This way, their support/approval could also be solicited to help restore lost confidence in the women.

While taking steps to remove these barriers, the domestic roles of women should not be overlooked as this may limit their involvement in extension activities. Plans must include special programmes that can reduce their work load such as easier access to water supply and fuel-saving forms of cooking. The men must also be encouraged to help women to save them more time for more productive activities.

6.2.3 Credit Issues

The establishment of an efficient extension service adapted to the conditions of its clientele is essential for the promotion of extension involvement. However, its effectiveness could be hindered if the clientele lacks capital to implement the recommendations of the extension agents. Such is the situation of women farmers in this region. The economic recession in the country probably accounts for women's very limited access to farm loans but as has been seen, this situation is exacerbated by societal and institutional factors. Suppressed by socio-cultural factors, shut out by conditions of banks, and bypassed by the extension service, farm loans is the least accessible of the three agricultural services for the women.

It is recommended that the government as provider and/or controller of credit institutions in the country study the situation of women farmers and adjust loan conditions to fall within their reach. The women themselves suggest that they could be more easily reached through female groups where they would be in charge themselves. FAO and other international bodies acknowledge that women in fact generally have superior repayment rates than men but they are mostly held back by unfavourable conditions. Although this is true, it must, however, be cautioned that such loans be supervised as records show that to supply capital to farmers without showing them how to make effective use of it often produces undesirable results. This way, two services can be offered - education and credit.

It is of paramount importance for extensionists to have adequate training to assist and guide the women in making the best use of their loans. They should not, however, participate or be responsible for the administration and control of the loans. That should be an educational process the women have to go through themselves to build their confidence as decision-makers.

Farm loans could also be in the form of farm inputs such as fertilizers, improved seeds/seedlings, and farm tools. Here also, technical knowledge is important as extension messages and training based on this knowledge can be invaluable. Thus technical guidance will have a positive effect as it yields economic benefits for the women.

Finally, it is important to have the overall support/approval of the men for such programmes as from the researcher's experience, economic emancipation for women is usually interpreted as a potential threat to male authority. Men must be encouraged to see the benefits as ways of improving the lives of the family and the community as a whole.

6.2.4 Overall Developmental Issues

Many of the recommendations call for a deliberate focus on women as a disadvantaged group. While this may have short-term benefits, it is not likely to be so in the long-run if programmes are not carried out in the total context of rural development. This has, in fact, been cited as one reason why such programmes fail or remain marginal with respect to mainstream development activities. These special programmes are therefore mainly recommended until the sex balance is redressed. Thereafter, integrated programmes should be introduced to encourage women to play an equal role in the mainstream activities for agricultural development. Integrated programmes also help to eliminate the socio-cultural factors that restrict women from involvement in benefits of agricultural development.

6.3 Implication For Further Research

Although this research has made discoveries in the issues examined, the findings provide background information for several areas that demand further inquiry. The first of these is that the study focused only on the women. Future research needs to include their husbands to make comparisons concerning access to these services. The next issue is that this study has aimed at determining factors that may be responsible for differences in women's access to the related services in the region. Very few of these differences are explained by the socio-economic factors considered in the study. There is a strong need for further investigation, testing other factors or using the same factors but employing different methods of measurement and testing. Finally, considerable research is needed in this area as a whole in Sierra Leone to gain better understanding of women and their problems in farming.

6.4 Concluding Statement

The general purpose of this research has been to determine the factors that constrain women farmers' access to extension advice/information, training, and farm loans. To achieve this, the availability of these services for women has been assessed, some of the problems they face in getting these services determined, and possible solutions to these problems solicited from the women. While data reported may not be representative of most rural settlements in Sierra Leone, the region's long history with extension activities from NUC and other more recent sources (as has been explained) should serve as a basis for comparison/evaluation with women in other parts of the country that have had limited extension activities. It is hoped that these findings can provide the framework within which planners, decision-makers and extensionists can evaluate women's position in relation to these services in the country as they attempt to redress the situation. Furthermore, it is hoped that these findings can be used to re-evaluate the roles of NUC in particular and other extension sources in the region for changes that might facilitate women farmers' access to these services.

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APPENDIX 1
LETTER TO CHIEFDOM HEADS

Department of Agricultural
Economics and Extension
Njala University College
University of Sierra Leone
Private Mail Bag
Freetown
Sierra Leone
10th January 1990

Dear Sir/Madam,

REQUEST FOR ASSISTANCE

Mrs. Marie Manyeh of the University of Alberta, Canada, is studying for her M.Sc. degree in Rural Sociology. She proposes to do a study entitled: "Factors Constraining Farm Women's Access to Agricultural Services in Sierra Leone".

The study area covers Kori, Kamajei and Kowa chiefdoms. Incidentally, the Agricultural Economics and Extension Department is working in the same three chiefdoms and therefore finds Mrs Marie Manyeh's study very relevant to its work.

Unfortunately, she herself cannot be in the field because of financial limitations. In the circumstances, the Department is requesting your kind support and assistance to the field agents conducting the research.

Yours faithfully,

J.S. Bauie

ACTING HEAD OF DEPARTMENT

APPENDIX 2 - INTERVIEW SCHEDULE

Questionnaire number _____

A STUDY ON FACTORS CONSTRAINING WOMEN FARMERS' ACCESS TO AGRICULTURAL SERVICES IN SIERRA LEONE

BY

MARIE A. MANYEH
DEPARTMENT OF RURAL ECONOMY
UNIVERSITY OF ALBERTA
EDMONTON - CANADA

JANUARY - 1990

Name of Village _____

Village Zone 1 2 3 (Please circle)

Household Number _____

Interviewer's Name _____

Time taken for Interview _____

Checked by _____

SECTION I - SOCIO - ECONOMIC CHARACTERISTICS

1. (Female Household Head ONLY)

   Are you currently married? (Please check)

   Yes _____ No _____

2. Please give the following information about YOURSELF and your HUSBAND (if currently married).

	SELF	HUSBAND
Age (years)	_____	_____
Occupation: Main	_____	_____
Secondary	_____	_____

Education (Please circle no. of the highest level attained)	SELF	HUSBAND
None	0	0
Primary	1	1
Secondary	2	2
Non-University	3	3
University	4	4

3.a) How many people (adults and children) are YOU and your HUSBAND responsible for at the moment (feed, educ., clothe etc.)?

	YOU	HUSBAND
Own chn.(less than 15 yrs.)	_____	_____
Other chn.(.. .. .. ..)	_____	_____
Adults (less than 60 yrs.)	_____	_____
Adults (over 60 yrs.)	_____	_____
Total	_____	_____

b) What is the TOTAL number of wives your husband has(including yourself)?

_____ wife/wives

4.a) Below is a list of crops. If you GROW/GREW any of these, please show the QUANTITY you HARVESTED and the QUANTITY you SOLD last season (UNIT - bag, bushel, kerosine tin, three pence pan).

	QUANTITY HARVESTED	QUANTITY SOLD
Rice (Husk)	_____	_____
Ginger	_____	_____
Cassava	_____	_____
Sweet Potato	_____	_____
Groundnuts (Unshelled)	_____	_____
Maize/corn (Cob)	_____	_____
Yams	_____	_____
Beans	_____	_____
Palm kernel.....	_____	_____
Palm oil	_____	_____
Plantain	_____	_____
Banana	_____	_____
Grape Fruit	_____	_____
Oranges	_____	_____
Other(specify)_____	_____	_____

b) Below is a list of livestock. If you OWN any of these, please show the NUMBER and HOW MANY of these you sold LAST SEASON.

	NUMBER HAVE	NUMBER SOLD
Cattle	_____	_____
Sheep	_____	_____
Goat	_____	_____
Pig	_____	_____
Chicken	_____	_____
Ducks	_____	_____
Other(specify) _____	_____	_____

c) Please name any other ACTIVITY you were involved in LAST SEASON that gave you some INCOME(trading, fishing, weaving, etc.)

ACTIVITY	TOTAL INCOME
i) _____	Le._____
ii) _____	Le._____
iii) _____	Le._____
iv) _____	Le._____

SECTION II - ADVICE/INFORMATION

5. Have you EVER HEARD about people paid (agricultural instructors, extension workers) to give ADVICE/INFORMATION to FARMERS about improved farming? (Please check)

Yes _____ No _____

6. Have you EVER HEARD that these people (extension workers) give ADVICE/INFORMATION to FEMALE FARMERS about improved farming?

Yes _____ No _____

7.a) Have you EVER BEEN CONTACTED by an extension worker to be given ADVICE/INFORMATION about improved farming?

Yes _____ No _____ Ask (d)

b) Were you CONTACTED by an extension worker LAST SEASON to be given ADVICE/INFORMATION on improved farming?

Yes _____ No _____ Ask (d)

c) Please specify which of these extension workers CONTACTED you LAST SEASON, their SEX, and FREQUENCY of ADVICE.

	MALE or FEMALE	NO. of TIMES
N.U.C	_____	_____
A.C.R.E/I.A.R ..	_____	_____
C.T.C	_____	_____
Min. of Agric...	_____	_____

d) Below is a list of other ways a farmer can get ADVICE/INFORMATION on farming. Please specify which of the following WAYS you got ADVICE/INFORMATION LAST SEASON.

	YES or NO
Agric. Show/Field Day	_____
Radio	_____
T.V	_____
Newspaper/pamphlet	_____
Husbands	_____
Relatives	_____
Friends/neighbours	_____

8.a) Have you EVER ASKED an extension worker for ADVICE/INFORMATION on farming?

Yes _____ No _____ Go to Q.9

b) Please specify which of these extension workers you have ASKED for ADVICE/INFORMATION, and whether advice/information was GIVEN or NOT GIVEN.

EXT. WORKER	ADVICE/INFO. GIVEN YES or NO
N.U.C	_____
A.C.R.E/I.A.R	_____
C.T.C	_____
Min. of Agric.....	_____

9. In your opinion, what would you say the amount of ADVICE/INFO. you have received from the following SOURCES has been generally like for the past 5 -10 years? Would you say it has INCREASED, DECREASED or STAYED THE SAME? (please circle).

	INCREASED	DECREASED	STAYED THE SAME
N.U.C	1	2	3
A.C.R.E/I.A.R	1	2	3
C.T.C	1	2	3
Min. of Agric.	1	2	3
Agric. Shows/Field Day	1	2	3
Radio	1	2	3
T.V	1	2	3
Newspaper/pamphlets	1	2	3
Extension Meetings	1	2	3
Family/Friends	1	2	3

10a) What, in your opinion, are the MAIN PROBLEMS female farmers face in GETTING ADVICE/INFORMATION from extension workers on improved farming?

PROBLEMS: i) _____

ii) _____

iii) _____

iv) _____

b) Please SUGGEST what you think the following can do to HELP SOLVE the PROBLEMS you have mentioned.

The Government ... _____

_____

Extension Workers _____

_____

Husbands ..... _____

_____

Relatives/Friends _____

_____

SECTION - 111 TRAINING

11. Have you EVER HEARD that extension workers provide TRAINING for FARMERS for improved farming? (Please check)

Yes _____ No _____

12. Have you EVER HEARD that extension workers provide TRAINING for FEMALE FARMERS for improved farming?

Yes _____ No _____

13.a) Have you ever RECEIVED TRAINING from an extension worker for improved farming?

Yes _____ No _____ Go to Q.15

b) Did you GET TRAINING IN THE VILLAGE from an extension worker LAST SEASON for improved farming?

Yes _____ No _____ Go to Q.14

c) Please specify which of these EXTENSION WORKERS provided you TRAINING last season, the TRAINING PLACE in the VILLAGE, and the NUMBER OF TIMES training was PROVIDED.

	TRAINING PLACE	NO. of TIMES
N.U.C	_____	_____
A.C.R.E/I.A.R	_____	_____
C.T.C	_____	_____
Min. of Agric.	_____	_____

14.a) Have you EVER TRAVELLED to get TRAINING from an extension worker for improved farming?

Yes _____ No _____ Go to Q.16

b) Please name the PLACE you TRAVELLED to, the EXTENSION WORKER (work place) that provided the training, and the NUMBER of DAYS training lasted.

	TOWN/VILLAGE	EXTENSION WORKER	NUMBER of DAYS
i)	_____	_____	_____
ii)	_____	_____	_____
iii)	_____	_____	_____
iv)	_____	_____	_____

15.a) Have you EVER ASKED an EXTENSION WORKER to provide training for you for improved farming?

Yes _____ No _____ Go to Q.16

b) Please specify which of these EXTENSION WORKERS you ASKED, and whether TRAINING was GIVEN or NOT GIVEN.

EXTENSION WORKER ASKED	YES or NO	TRAINING GIVEN YES or NO
N.U.C	_____	_____
A.C.R.E/I.A.R	_____	_____
C.T.C	_____	_____
Min. of Agric.....	_____	_____

16. In youur opinion, what WOULD YOU SAY the amount of TRAINING provided by these extension workers for female farmers has generally been like for the last 5 - 10 tears? Would you say it has INCREASED, DECREASED, or STAYED THE SAME? (Please circle)

EXT. WORKERS	INCREASED	DECREASED	STAYED THE SAME
N.U.C	1	2	3
A.C.R.E/I.A.R	1	2	3
C.T.C	1	2	3
Min. of Agric.	1	2	3

17.a) What, in your opinion, are the MAIN PROBLEMS female farmers face in GETTING TRAINING from extension workers for improved farming?

PROBLEMS: i) _____

ii) _____

iii) _____

iv) _____

b) Please SUGGEST what you think the following can do to HELP SOLVE the PROBLEMS you have mentioned.

The Government .. _____

_____

Extension Workers _____

_____

Husbands ..... _____

_____

Relatives/Friends _____

_____

SECTION IV - CREDIT

18. Have you EVER BEEN TOLD that farmers can GET LOANS from certain institutions such as banks for agricultural purposes? (Please check)

Yes _____ No _____

19. Have you EVER BEEN TOLD that FEMALE FARMERS can GET such loans as well for agricultural purposes?

Yes _____ No _____

20. Has somebody EVER EXPLAINED to you how (procedure) you can APPLY for a loan from a bank or other lending institutions for agricultural purposes?

Yes _____ No _____

21.a) Have you EVER APPLIED for a loan to be used for agricultural purposes?

Yes _____ No _____ Go to Q.22

b) Did you APPLY for a loan LAST SEASON to be used for agricultural purposes?

Yes _____ No _____ Go to Q.22

c) Please specify which INSTITUTION/PEOPLE/PERSON you APPLIED to LAST SEASON, the AMOUNT you asked for, and whether the loan was GIVEN or NOT GIVEN.

	INSTITUTION/PEOPLE/ PERSON	AMOUNT	LOAN GIVEN Yes or NO
i)	_____	Le _____	_____
ii)	_____	Le _____	_____
iii)	_____	Le _____	_____
iv)	_____	Le _____	_____

d) Were you given any CONDITIONS (things you must have or do) by the INSTITUTIONS/PEOPLE/PERSON before getting the loan?

Yes _____ No _____ Go to Q. 22

e) Please state ALL the CONDITIONS you were given, specify whether you MET them or NOT, and give REASONS why you could not meet them.

	CONDITIONS	CONDITIONS MET/NOT MET	REASONS COULD NOT MEET CONDITIONS
i)	_____	_____	_____
ii)	_____	_____	_____
iii)	_____	_____	_____
iv)	_____	_____	_____

22. In your opinion, WHAT WOULD YO SAY the AMOUNT OF LOANS available for female farmers from the following sources has generally been like for the past 5 - 10 years? Would you say the LOANS have INCREASED, DECREASED, or STAYED THE SAME?

SOURCES	INCREASED	DECREASED	STAYED SAME
Banks	1	2	3
Co.op Organs.	1	2	3
Credit and Thrift Clubs	1	2	3
Osusu	1	2	3
Money Lenders	1	2	3
Family/friends	1	2	3

23.a) What, in your opinion, are the MAIN PROBLEMS female farmers face in getting loan from the bank to be used for agricultural purposes?

PROBLEMS: i) _____

ii) _____

iii) _____

iv) _____

b) Please SUGGEST what you think the following can do to HELP SOLVE the PROBLEMS you have mentioned.

The Government ..... _____

_____

Foreign Govts./Agencies _____

_____

Extension Workers ..... _____

_____

Husbands ..... _____

_____

Relatives/Friends ..... _____

_____

APPENDIX 3

INTERVIEWERS' MANUAL

COVER PAGE

Please NUMBER the QUESTIONNAIRE (top right hand side).

Enter information at the bottom of the page.

VILLAGE ZONE: 1 - village located less than 8 miles from Njala.

2 - village located between 8-16 miles from Njala.

3 - village located between 17- 25 miles from Njala.

INTERVIEW ONLY ONE of the following from a selected HOUSEHOLD: WIFE(the only wife) or SENIOR WIFE(polygamous marriage) of a male-headed household

OR

FEMALE HOUSEHOLD HEAD -

She is the head of the household.

She may be single (never married).

She may be widowed, divorced or separated.

She may be currently married but her husband is away either temporarily or permanently.

She may have a man living with her but he is NOT the HEAD of the HOUSEHOLD.

GUIDE TO QUESTIONS

Q.1 MARRIED a) Traditional and other legal marriages.

b) Has a man LIVING with her although the relationship is not that of a legal/ traditional marriage.

None of the above - answer should be NO.

Q.2 HUSBAND - same factors as Q.1.

NON - UNIVERSITY - any post- secondary training undertaken but lower than university level.

Q.3a) HUSBAND - same as Q.1.

RESPONSIBLE - feed, educate, clothe, medical care etc.

Q.4a) QUANTITY HARVESTED and SOLD should be in one of the following units - BAG, BUSHEL, KEROSINE TIN, THREE PENCE PAN or ONE PENNY PAN.

Please use the UNIT MOST APPROPRIATE for the commodity e.g palm oil = kerosine tin, oranges = bag.

4c) ACTITVITY - any work respondent gets money for other than crop or animal farming e.g trading and fishing.

Q.7a) CONTACTED - An agricultural extension worker got in touch with or talked with.

c) SEX of EXT. WORKER - Please write M (male) or F (female)

NO. of TIMES - number of times advice was given last season.

d) YES or NO - Please write Y against any of the sources of info. respondent got advice from and N for the reverse.

Q.10a) Please encourage respondent to give at least TWO MAIN PROBLEMS.

b) Please encourage respondent to suggest at least ONE SOLUTION for each section.

SECTION III TRAINING - taught some new farming technique e.g planting in rows or making different beds for different crops.

Q.13c) TRAINING PLACE in the VILLAGE - e.g on repondent's farm.

Q.14b) EXT. WORKER - must show where the ext. worker works.

Q.17a) MAIN PROBLEMS - Please encourage respondent to give at least TWO MAIN PROBLEMS.

b) Please encourage to suggest at least ONE SOLUTION for each section.

Q.20 PROCEDURE - how to apply, what respondent must have or must do.

Q.21c) INSTITUTION - e.g. bank, co-op organization.
PEOPLE - e.g. credit and thrift club, osusu.
PERSON - e.g. money lender.

d&e) CONDITIONS - things respondent must have or do before loan is given e.g land, house, regular salary etc.

Q.23a) MAIN PROBLEMS - Please encourage respondent to give at least TWO MAIN PROBLEMS.

b) Please encourage to suggest at least ONE SOLUTION for each section.